

international studies in education 26

CURRENT PROBLEMS OF TEACHER EDUCATION

REPORT OF A MEETING OF INTERNATIONAL EXPERTS

Edited by

ALFRED YATES

1972 (second edition)

unesco institute for education, hamburg

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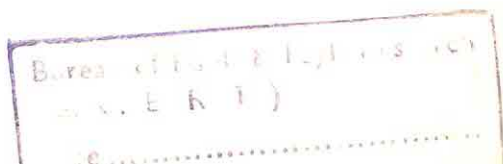
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INTERNATIONAL STUDIES IN EDUCATION
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by J. MERTENS. 1970.
26. Current Problems of Teacher Education
by Alfred YATES. 1970.

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PREFACE

"The Education of Teachers" was the subject of an international meeting of experts which took place at the Unesco Institute for Education in Hamburg, Germany, from January 20 to 23, 1969.

Prior to this meeting, other important Unesco conferences on the subject of teacher education and qualification had taken place in recent years : a Special Intergovernmental Conference on the Status of Teachers in Paris in 1966, an Expert Committee on Teacher Education in Paris in December 1967, and an International Conference on Further Education of Teachers in Prague in June, 1968. In contrast to these, the meeting at the Unesco Institute followed the pattern of a small working conference devoted to the discussion of the research aspects of the problem area, aimed at a better understanding of the manifold implications of recent social and technological change as regards structure and patterns of teacher education.

Teachers in our time are no longer mere disseminators of knowledge. It has become the teacher's main task to help young people in coping with a welter of information and in putting it into some order. They must know how to appraise and distinguish that which is useful to the development of individual and society, telling not only what is relevant at a given moment, but also what is likely to be relevant in the future.

This has not made the teacher's task any easier. Added to his former duties he now finds the responsibilities of a personal guide and — almost — parent, teaching young people how to make decisions in adjusting to a civilisation in a state of constant, rapid flux.

Taking these facts for granted, the experts at the Hamburg meeting — themselves mostly experienced professors of teacher education — were agreed that present forms and methods of preparing future teachers for their duties are generally of doubtful value. Although some progress has been made over the past 20 years in putting the teachers on an intellectual and social level comparable to that of other professions by integrating their course of training into the general system of higher education offered by the universities, many measures remain to be taken before the education of teachers can be called effective as well as adequate.

The optimal forms of teacher education cannot, however, be found without the help of many interrelated fields of knowledge : psycho-

logy, sociology, technology, as well as such scientific methods as mathematical analysis and statistics, all play an important part in such a design.

The conspicuous lack of useful research on the education of teachers seems to suggest that all is not well in this respect. This means that research should itself form an essential part in the activities of teacher education, to serve the two-fold purpose of introduction to an ever more important technique of discovery and of ensuring an efficient self-control of teacher education in the manner of constant feedback. Empirical research may not be the only solution, but despite the disadvantages of requiring much prior planning and setting-up of test situations it may provide the most reliable returns for many key questions about the entire infrastructure of education. Other problems, as e.g. curricular modifications, will call for a more prospective approach ; yet they, too, must be considered with the teacher's affective role in mind. If there was a single important finding at this meeting, it was indeed the realisation of the complexity of the art of teaching today, and even more so in the future.

The Institute is very grateful for the support given to this meeting by UNESCO, for the work of the participants who contributed in various ways to the successful outcome of the meeting, and, last but not least, for the skilful work put into the writing by its editor, Mr. Alfred Yates.

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INTRODUCTION

a) Origin and Purpose of the Expert Meeting

There would seem to be a growing dissatisfaction, in most countries of the world, with the present arrangements for the education and training of teachers. The complaint that the quantity of entrants to the teaching profession is insufficient to meet the increasing demand for education at all levels is of course familiar enough to those responsible for teacher education and is a criticism that they tend to regard as both valid and acceptable : it carries with it the comforting implication that their services are appreciated and will continue to be required for a long time to come. Criticisms levelled against the quality of the new entrants, however, are far less palatable : such strictures cast doubts on the adequacy of the procedures that are employed to educate intending teachers and consequently on the professional competence of those who design and implement them.

During the past decade the volume and intensity of this latter kind of criticism have reached uncomfortable proportions. Not only has it occupied considerable space in the educational literature of many countries but it has often been afforded wider publicity by the mass media, and the relatively muted contributions of the academics are now scarcely audible above the clamour created by politicians, journalists, retired admirals, and the like.

The number and variety of the charges that are being brought against current methods of teacher preparation are such that, if they are to be answered effectively, they must be submitted to some form of classification so that those that are relevant and soundly based may be distinguished from the impertinent and irrational.

During the course of the debates that these charges have stimulated in educational journals and conferences in many parts of the world it has often been pointed out, with some justification, that many of the criticisms levelled against the policies and practices of teacher education are manifestly misplaced. In some countries all the ills that an educational system is heir to have been ascribed to the shortcomings of the institutions for teacher preparation. When protestations thus became excessively intense and indiscriminate a plausible hypothesis to account for their origin is that they are the product of a general malaise. Social psychologists have identified a recurrent tendency within human groups and societies for blame and disfavour, in times of stress, to be directed towards a particular section of the

community. Once an appropriate minority has been identified it becomes a convenient target for concentrated criticism. A group that betrays inclinations towards non-conformity or exclusiveness may find itself, in certain circumstances, charged with responsibility for many of the social and economic ills that afflict the society to which it belongs.

Although it would be extravagant to represent teacher educators as a persecuted minority, there can be little doubt that in recent years they have been invited to shoulder a disproportionate share of the blame for the defects that are becoming apparent in national systems of education everywhere. These defects are varied in character but for the most part share a common origin. They may be ascribed to the marked discrepancy between, on the one hand, the number and urgency of the demands that present-day society is making on its schools and, on the other, the capacity of the latter to adjust to these demands at the rapid rate that is often expected of them.

There is clearly no need to enter here upon a lengthy discussion of the nature of industrialised society in the second half of the twentieth century except that, in the present context, it may be useful to remind ourselves of the impact that some of its characteristics have made on schools and other educational institutions. During the past decade, the latter have been under mounting pressure to introduce the following innovations : to modify their curricula in response to the knowledge "explosion" that is serving to transform the content of many of the academic disciplines ; to respond to epistemological developments which call for a revision of the boundaries between subjects ; to organize into systematic courses new subjects or fresh combinations of existing subjects to satisfy the rapidly changing vocational requirements of the "technological society" ; to revise their teaching methods in accordance with the fresh insights that educational and psychological research have afforded into the processes of learning and intellectual development ; to incorporate into their instructional procedures the wide range of devices that are being marketed by the expanding education industry ; to change, often in a radical manner, the internal organisation of the school - to the extent, in some instances, of requiring teachers to deal with pupils wholly different in level of ability, interests and attitudes from those they have been accustomed to encounter ; to introduce into the school new forms of government and administration — to accord, for example, to pupils and their parents a greater share in the determination of policies and practices ; to assume wider responsibilities, both in relation to the personal and social development of their pupils and also in relation to the community of which the school forms a part.

This catalogue represents only a sample of the innovations that schools in many countries have been urged by different agencies and from a variety of motives to undertake in recent years. If the new demands had been fewer in number, more compatible with each other, accompanied by clearer indications of their rationale and more posi-

tive recommendations concerning the ways in which they might be fulfilled, and less urgent, the necessary changes might have been effected without undue strain on those responsible for their introduction. It has been suggested, for example, that a reorientation on the scale required could be adequately achieved only if the schools were able to close down for a few years to enable their staffs to devise fresh strategies appropriate to the attainment of the objectives that they are now being required to pursue. This being impossible, a period of uneasy transition and relative instability is an inevitable consequence of demands for speedy and fundamental reform, and those most closely involved — the administrators and teachers — have had to endure considerable uncertainty and frustration. In these circumstances it is understandable, if somewhat irrational, that inadequacies in the education and training of teachers should commonly be both identified as a major cause of the present discontents (the teacher educator, out of touch with reality, under-employed and utilising his spare time to foist impracticable schemes on to sensible, realistic overworked school teachers have become conventional stereotypes) and blamed for the failure to provide apt and ready solutions to the problems that beset the school.

Another sizeable category of criticisms levelled against the education of teachers may be attributed to a misconception of its aims or to a failure to appreciate the limitations that lack of time and resources impose on its potential achievements. It is a not uncommon complaint that new entrants to the teaching profession are not fully equipped to deal with the problems that they encounter. It is scarcely a matter for surprise that this should almost invariably be the case. For an administrator or teacher to point out that a beginner is conspicuously lacking in competence is a statement of the obvious rather than a judicious comment on the quality of his training. The specific charges that are usually made under this head betray a conception of teacher training that is sub-professional in character and wholly inconsistent with the frequently expressed need for teachers who can adapt to a rapidly changing situation. For example, lists are sometimes compiled by administrators, school principals and experienced teachers of the day-to-day tasks that teachers are required to discharge and for which many new entrants are ill-prepared. The revelation of this discovery is usually accompanied by the recommendation of an apprentice-type training which would ensure that these necessary items of expertise were acquired. The criteria employed by those who arrive at these adverse judgments are dismissed by teacher educators as being largely irrelevant to their major aims and purposes. They do not envisage that each new entrant to the teaching profession will be immediately capable of solving all the specific problems that confront him : they seek rather to ensure that he is acquainted with an array of soundly based theoretical principles that will enable him eventually to arrive at adequate solutions both to these problems and to those that have not yet arisen. They are not so much concerned to

meet the expectations of those who require him to be well-versed in the practices of today — which soon become those of yesterday — but rather that he should be equipped to make, at a professional level, the decisions and choices that tomorrow's conditions will call for.

A third category of criticisms may be discerned which, although apparently trivial, have undoubtedly exercised an adverse influence on the status, morale and, consequently, the effectiveness of those responsible for teacher education. These criticisms involve the denigration of pedagogy on the grounds that it is not only distinguishable from but less reputable than the traditional academic disciplines. The assignment of areas of study and research to relative positions within a somewhat arbitrarily determined pecking order is a game which would now appear to be losing its appeal even within the Universities, where it was invented as an outlet, one supposes, for the kind of playful malice which often enters into the relationships among scholars. Although there are signs in many countries that cooperation and mutual respect are developing between the liberal academicians and the professional educationists, the study of education is not yet universally acknowledged as an intellectually respectable activity and, consequently, institutions for the education of teachers, in many instances, tend to occupy peripheral positions in the circles of higher education.

It would be eminently satisfactory, not least from the point of view of teacher educators if this analysis could be regarded as complete. If the criticisms levelled against their efforts could be inclusively classified as misplaced, misconceived or trivial they could carry on with undiminished confidence. It has to be admitted, however, that the kinds of criticism adumbrated above by no means exhausts the available supply. Dissatisfaction is being expressed with many aspects of teacher education by people of experience and goodwill, who are capable of disinterested and objective judgment, who recognise and sympathise with the aims that inform teacher education but who have rational grounds for believing that these aims are not being adequately realised in present circumstances. A good deal of this kind of criticism is also to be found within the ranks teacher educators themselves.

It might well be objected, of course, that the situation we have just described exhibits few, if any, novel features. It may be presumed that ever since formal arrangements for the education and training of teachers were introduced, misgivings have been expressed concerning the effectiveness of some of the procedures involved. What has changed during recent years, it could be argued, is the extent to which these misgivings have been documented and publicised.

It is our contention, however, that the circumstances in which teacher education is currently practised differ in a number of significant respects from those that have obtained in the past, and it is these changed conditions that have created the need for the kind of conference

that is here reported and which have determined the course of its proceedings.

The most significant of these differences is one to which we have already alluded — the extent to which educational systems everywhere are being required to make wholesale adjustments to meet the rapidly changing needs of the societies that they serve. It has been pointed out that teacher education in the past lacked any discernible policy or rationale. Taylor (1969), commenting specifically on the situation in England, but expressing a judgment which is manifestly applicable to many other countries, has pointed out that, "the present arrangements for the education and training of teachers represent the product of piecemeal reform and of ad hoc decisions made in response to inadequately foreseen events". Although, in the past, teacher education would no doubt have been of improved quality and effectiveness if its aims and practices had rested on a firm and explicit rational basis, it was able for a long period to sustain itself without the benefit of this luxury. "Piecemeal reform" and "ad hoc decisions" were adequate for its survival at a time when educational developments proceeded at a fairly leisurely pace.

A generation ago a new entrant to the teaching profession would reasonably expect to spend at least the greater part of his career in a kind of school which had existed long enough to have developed traditional forms of organisation and well-established practices; furthermore he would find himself surrounded by experienced teachers who were not only familiar with but who entertained, for the most part, an unquestioning respect for the school's routines. What they required of a new member of the staff was that he should learn his lines, so to speak, as rapidly as possible so that he could play a generally accepted and well-defined role. In these circumstances, teacher education, except in so far as it was concerned with the purely academic development of intending teachers, was of only marginal importance. In terms of the professional preparation that it offered, a teacher training institution could be wholly out of phase with the needs and aspirations of the schools without having any disastrous effects. Whether because of, or in spite of his training, the beginner was quickly absorbed into the system. Those who controlled and operated the schools were able to adopt an indulgent attitude towards teacher education. Any assistance that it provided in easing the entrant's transition from the status of raw recruit to that of qualified teacher was welcomed; any defects that it exhibited were tolerated on the grounds that they could easily be remedied in the fulness of time.

As we have seen the present situation affords a sharp contrast. Many schools now look to the institutions devoted to teacher education for help with the problems that beset them. Unfortunately the latter, caught just as unawares as the schools have been, by the rapid progression of events, have as yet been unable adequately to fulfil these expectations.

A second and related difference between the past and the present concerns the position that teacher education is now being required to occupy within the total pattern of education. We have indicated that in the past the professional education of teachers was not regarded as making a particularly significant contribution to the prosperity of the educational enterprise as a whole and, indeed, it was not infrequently argued that it could be dispensed with altogether. Now it is not only being pressed into service but it is being thrust into the centre of the stage, as it were. The growing recognition that the education of teachers is the single most important element in any programme of educational reform is not the result of philosophical argument, nor can it be said to have been earned by its practitioners. It has rather been forced upon us by an accumulation of evidence derived from attempts to introduce a variety of educational innovations.

The processes of educational change have been closely analysed in recent years (e.g. Miles 1964, Yates 1970) and it has become abundantly clear that the success of innovations of almost every kind depends in the main on the extent to which teachers are able or willing to cooperate with those who seek to introduce them. Numerous case-studies are available in which the progress of proposed reforms — changes in curricula proposed by subject experts, the introduction of new methods of instruction, modifications in school organisation, etc. — has been charted. The major difficulty that is reported in these accounts is not that of persuading those concerned to introduce the required changes — the desirability of reform is often readily accepted and full cooperation assured — but rather that of sustaining them beyond an initial, experimental period. Changes in a school's policies and procedures call for corresponding adjustments in the behaviour and attitudes of the teachers concerned. Even when the latter are willingly attempted, it is often found that, after a time earlier habits reassert themselves and, commonly, as a result, an initiated reform is not so much deliberately abandoned as gradually displaced by the surreptitious reappearance of its predecessor. The lesson that has been learned from these investigations is that educational innovations cannot be effectively sustained unless they are accompanied — or preferably preceded — by the appropriate education or re-education of the teachers concerned.

A third feature of present-day teacher education which distinguishes it from that of the past — and here we begin to focus sharply on the origin and purpose of the Hamburg conference — is the way in which those responsible for its organisation and conduct react to the criticisms that are levelled against it. Teacher educators have in the past responded in a variety of ways to any adverse judgment of their policies and practices. Predominantly they have closed the ranks and offered retaliation. The educational journals of many countries have thrived on the publication of polemical discussions between teacher educators and their detractors in the schools or Universities. Even the

least acrimonious of these debates have tended rather to confirm the prejudices of the contestants than to elucidate the issues involved.

To a lesser extent, the reaction has been to accept all too readily the criticisms that are offered and to make indiscriminate changes in an effort to meet them. For example, there is evidence to show that a number of institutions for teacher education have been over-sensitive to the disparagement of their work by members of University faculties, who tend to be exclusively preoccupied with academic standards. In their efforts to meet these demands for academic respectability some of them have gone so far as to neglect some of the essential professional elements in their programmes. Conversely, others have been so anxious to assuage their critics in the schools, who are prone to question the place and purpose of "theory", that they have allowed their courses to become predominantly concerned with the minutiae of classroom practice.

These patterns of response to criticism still persist but there is now a discernible and growing trend among teacher educators to turn to research as an appropriate means of progressing towards a deeper understanding of the processes in which they are involved. It is the encouragement of this trend that constitutes the major purpose of this report. We see it as the most hopeful development that has as yet appeared in the history of teacher education and one that could have significant beneficial effects on education generally.

The origin of our conference, therefore, is to be found in the widespread dissatisfaction that is being expressed concerning the present policies and practices of teacher education and in the growing recognition that teacher education has a vital role to play in facilitating innovation and reform within the total educational system.

Its major purpose was conceived as being to assist and to encourage the efforts of those who seek to refine the objectives and to improve the methods of teacher education by the use of rigorous, critical analysis and, where appropriate, the techniques of empirical research. To this end, we set ourselves the task of identifying the problems and issues within the area of teacher education that call for objective study and inquiry and of indicating the kind of investigation that would seem to be appropriate in each instance.

b) The Organisation and Conduct of the Conference

The organisation of the meeting followed the pattern that has become familiar at meetings sponsored by the Unesco Institute, Hamburg. The initial preparation was begun by a small steering committee under the chairmanship of Professor Raymond Lallez, and attended by Mr. Vladimir Hercik of the Department of School and Education, Unesco, Paris, Mr. Alfred Yates who was designated as rapporteur for the expert meeting, and members of the Hamburg Unesco Insti-

tute's staff. The latter, and in particular M. Jean Vanden Bossche and Dr. Kurt Opitz, undertook the major responsibility for issuing the invitations to the main meeting, preparing materials for circulation to its members, and making all the necessary arrangements for the meeting that was held at the Institute's headquarters from the 20th to the 23rd of January, 1969.

The steering committee drafted a questionnaire that was circulated to the participants before the conference began. This was designed to yield up-to-date factual information concerning the ways in which teacher education was organised and conducted within each of the countries represented at the expert meeting.

The completed questionnaires were collated by the Institute's staff and Dr. Kurt Opitz prepared a summary and evaluation of the returns which was made available to the members of the meeting.

Other documents with which the participants to the meeting were provided included :

the final report of the Expert Committee on Teacher Education (ED/CS/177/6) which met in Paris from 4th to 15th December, 1967 ;

"Current trends and problems in teacher education" by Dr. Jiri Kotasek, Charles University, Prague ;

"Professional preparation of teachers in the light of recent advances in educational theory and teaching techniques" by Professor I.T. Ogorodnikov, USSR Academy of Pedagogical Sciences, Moscow, and Mrs. T.A. Ilyina, Lenin State Pedagogical Institute, Moscow ;

and "Teacher Education in the United States" by Dr. Robert J. Schaefer of Teachers College, Columbia University, New York.

These three latter documents had formed part of the reference material for the Unesco Paris Expert Committee, whose report is cited above, and are included as Appendices to this report.

The expert meeting met in a number of plenary sessions under the chairmanship of Professor Ben Morris of the University of Bristol, England.

At the first of these agreement was reached concerning the major task of the meeting — which has been outlined in the previous section — and each participant was assigned to one of three working parties charged with the responsibility of identifying, within their designated area, the problems and issues amenable to research. It was agreed that, in this context, research should be interpreted broadly to include fact-finding surveys, which are often a necessary preliminary to experimental or quasi-experimental investigation, and also critical analysis which again, if pursued with rigour, may serve to indicate problems and hypotheses which lend themselves to empirical investigation.

Further plenary sessions were held to receive progress reports from

the working parties and at the end of the meeting, to determine the shape of the final report.

The broad areas assigned to the three working parties were defined as follows :

1) Organisation of teacher education

The discussions under this head centred round the structural aspects of teacher education and included the following topics : the formulation and control of training policies ; the kinds of institution within which teacher education takes place and their relationship with other institutes of higher education and with the schools ; the recruitment of staff ; the recruitment of students ; the organisation of pre-service courses and their relationship with programmes of in-service training.

2) Curriculum and content

Among the items included in this section were : the content of the professional aspects of the course and their relation to the academic education provided ; the degree of subject specialisation within the academic part of the course ; the provision of appropriate courses for teachers preparing to deal with pupils of a specific age-group or range of ability.

3) Methods of teacher education

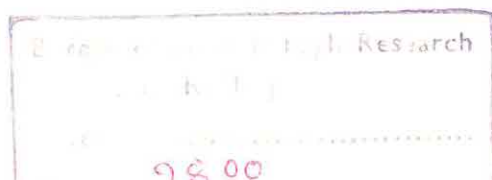
This area was concerned with the ways in which the experiences deemed to be appropriate for the intending teacher are devised and introduced. The specific topics included the use of lectures, seminars and other traditional modes of formal education ; the role of "discovery" methods as applied to teacher education ; the provision of practical experience, including periods of supervised teaching in school ; methods of assessing and examining the students.

c) The Contents of the Report

At the final plenary session at which the findings of the working parties were considered and collated and the outline of the present report was discussed, it was acknowledged that one of the original objectives conceived by those who had proposed the meeting could no longer be regarded as practicable. It had been rather ambitiously envisaged that the report should incorporate, if not a definitive account of recent and on-going research within the field of teacher education and its related areas, at least one that would be adequately representative of the total array of relevant investigations.

This objective has had to be abandoned on two grounds. We could not command the resources that would have been needed to collect and to analyse all the required information ; and even if we had been

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able to do so, its reproduction would have involved us in compiling a report of unmanageable proportions.

It should be emphasised, therefore, that such generalisations as appear in the report concerning either published or on-going research are not based on a fully comprehensive review of the literature or on any systematic survey of current research — even within the countries represented at the conference. Where it is claimed that certain trends are apparent it must be admitted that the conclusion is largely impressionistic. We are reasonably confident, however, that our approach is not likely to have resulted in any undue distortion. This optimistic view rests partly on the proposition that an assembly of experienced teacher educators drawn from a dozen different countries and given the opportunity to pool its experience and knowledge is unlikely to be wholly unaware of any sizeable body of reputable research that is crucial to its purposes. And this view is also reinforced by the fact that, although we were unable to undertake a thoroughgoing review of current research, up-to-date accounts of relevant investigations that are being conducted in a variety of countries have been made available to us. In this respect we would specifically acknowledge the contributions of the following, who supplied information relating to on-going research in the countries indicated :

Professor W.L. Callison	Stanford Center for Research and Development in Teaching	(U.S.A.)
Mr. Brian Cane	National Foundation for Educational Research	(U.K.)
Dr. Dirk Jacobs	Institute of Education, Hamburg University	(F.R. Germany)
Dr. Jiri Kotásek	Charles University, Prague	(Czechoslovakia)
Professor Jozsef Kovacs	Teacher Training College, Nyiregyhaza	(Hungary)
Professor Raymond Lallez and Professor Karl Seidelmann	Ecole Normale Supérieure de St. Cloud Philipps University, Marburg	(France)

The ensuing sections of this report incorporate the major conclusions reached at the meeting concerning those current problems within the field of teacher education to which methods of empirical research or processes of sustained critical analysis could most profitably be applied. The ordering of the topics discussed corresponds broadly to the division of labour adopted at the meeting. Section 1. deals with the issues that arise in discussing the broad structural and organisational aspects of teacher education ; Section 2. is devoted to

the curriculum and content of teacher education courses ; and Section 3. to the methods and techniques employed in their conduct. A fourth and final section includes some general comments on the organisation and design of research in this field.

Our overriding purpose in offering the report is to stimulate interest in the potentialities of research in what has so far been a relatively neglected area in this respect. Even if our specific suggestions fail to gain acceptance we shall be content if they serve to persuade others to devise more practicable proposals.

PROBLEMS OF TEACHER EDUCATION

1. ORGANISATION OF TEACHER EDUCATION

In this section we discuss teacher education in its institutional setting. We are concerned here with the broad strategies that are employed in bringing together teacher educators and students and ordering their relationships and activities. These arrangements, the problems to which they give rise, and the extent to which research might elucidate these problems are examined under five heads.

First, we consider the kinds of establishment within which teacher education is carried out, examining the forms of internal organisation they might adopt and their relationships with other educational institutions.

Secondly, we discuss the organisation, within these establishments, of courses of pre-service teacher education. We are chiefly concerned, in this respect, with matters of policy and overall design; details of content and teaching methods are dealt with in subsequent sections.

Thirdly, we examine the related problems of in-service teacher education and the contribution that teacher education institutions can make to its effective organisation and conduct.

Fourthly, we address our attention to the members of the staffs of institutes of teacher education, considering, in particular their background, qualifications and deployment.

Finally, we consider the problems involved in recruiting and selecting entrants to teacher education courses. Discussion of the educational qualifications and personal characteristics that serve to identify a suitable entrant confronts us, of course, with the profound issues involved in trying to identify the qualities that are associated with effectiveness in teaching.

1.1 Institutions for Teacher Education

1.11 The character of teacher education institutions

The institutions responsible for the education of teachers are extremely varied in character. Between countries and within countries they are found to range from those which, at one end of the scale, may be closely identified with secondary schools and those, at the other,

which are housed within, or are manifestly equivalent in standard to Universities.

These differences are the result of the history of teacher education as an organised enterprise. Its origin accompanied and was stimulated by the rapid transition from a conception of education as being the prerogative of a favoured minority in the community to that of a publicly provided system extending its benefits to all its members. To meet the demands of universal education, teachers had to be provided in large numbers and relatively quickly. Furthermore its initial aims were relatively unambitious, being restricted at the outset to affording a modest degree of literacy to the children of the masses. In these circumstances it was inevitable that teacher education, in the early stages of its development, should be associated closely with the schools, rather than with institutes of higher education. The more promising pupils were persuaded to stay behind, as it were, to serve a brief apprenticeship and then to begin to practise as teachers. Even when such recruits were removed to institutes, established and designed to afford some formal preparation, little more than minor advancement in their personal education and the acquisition of a few basic skills was expected or required of them.

Teacher education institutions, in general, still suffer to some degree from the stigma attached to their humble origins, and, in many instances, their status is still insecure.

The Universities, closely associated historically with the supervision and provision of those forms of higher education that are related to entry to the major professions, have tended to be uncertain about their obligations regarding the education of teachers. Their contribution to the supply of adequately qualified people to teach in academic secondary schools has been recognised if not satisfactorily defined. Their relationship to the total system of preparing teachers for every kind of school and educational establishment remains obscure.

In many countries there is now an uneasy confrontation between the Universities and those responsible for teacher education which involves uncertainty, on both sides, concerning the kind and degree of partnership that they should endeavour to develop.

In considering the character of teacher education institutions we would identify as the problem most deserving of close study and research at present that of determining the extent to which they should be associated with the Universities. This problem has been the subject of a good deal of critical discussion (for example, Bellak (1963), Conant (1963), Preisler (1966), Beckman (1968), Taylor (1969) and many others) but little research has been undertaken of a kind that would help us to resolve the issue.

We need to be able to examine or clearly to envisage the consequences of different degrees of participation by the Universities in the process of teacher education, ranging from at one extreme the com-

plete control and direction of the whole enterprise to, at the other, their total isolation from its activities and concerns.

In many countries, the status of teacher education is regarded as dependent on the extent to which it becomes accepted by and associated with the Universities. This has persuaded some teacher education institutes to model their practices on those favoured by the Universities, basing their policy, in this regard, on the assumption that imitation is the sincerest form of flattery and that, by flattery, they might effect the marriage that will earn them a higher prestige. Others, prompted by a variety of motives, favour a policy aimed at preserving the distinctive character of their institutions and at ensuring that their direction and conduct remain independent of the Universities.

Our submission is that the ultimate decision concerning the status and control of teacher education establishments should be based on a detached examination of the observable or predictable consequences of their close identification with the Universities. We need to inquire into the effects of such an intimate association on, for example, staffing, the recruitment of students, the programmes offered by the institutions and the number and quality of the teachers they produce.

It is arguable that the enhanced prestige that attaches to being associated with a University would have a favourable influence on the morale of teacher educators and would serve to attract to their ranks abler and better qualified members. This possibility deserves investigation, but we should also perhaps inquire into potentially detrimental effects that are at least conceivable. For example, it might prove to be the case that if all forms of teacher education were closely controlled by the Universities some of those who are now attracted to teacher education and make a useful contribution to its conduct would cease to offer their services or, if they did, would perhaps be unacceptable. (Perhaps in discussing these issues, and others related to them, we should envisage two separate sets of conditions: one in which the Universities involved themselves more intimately in the processes of teacher education but without significantly modifying their attitudes — towards, for instance, the kinds of academic discipline that are appropriate for study within the University context and the criteria that should be applied in judging the standards reached by their students; another in which the Universities embraced teacher education as an activity, in its entirety, for which they were prepared to accept obligation, in the full recognition that this would involve some adjustments on their part and some modification in their traditional concepts and attitudes.)

For much the same reasons, it is possible that the University controlled institutes of teacher education would change the present patterns of recruitment. In many countries a kind of pecking order is to be found among different kinds of educational establishments, and even within establishments of the same type. Thus some Universities are regarded as being somewhat superior to the rest, and thus

more desirable from the point of view of those seeking admission. And Universities as a whole enjoy a higher prestige than other institutes of higher education. Within this rank order teacher education establishments tend to occupy a lowly position and therefore, to some extent, find themselves attracting candidates for admission of a relatively low calibre. The position might well be changed if teacher education became recognised by and associated with the Universities. There are questions to be asked, however, which parallel those raised above in discussing the possible effects of University control on staffing. To what extent, one would like to discover, would any resultant modifications in the pattern of recruitment serve to admit some candidates who would prove to be less satisfactory than those coming forward at present, or, correspondingly, to exclude some of those who, under the existing arrangements, are found to profit from the courses that are provided ?

Changing the character of teacher education institutions in the direction we are envisaging could also have significant effects on the content of the courses that they offered. We shall be discussing in a later section the issues involved in effecting an appropriate balance between academic education on the one hand and the pedagogic and professional elements on the other. The point to be noted here is that the degree of University control of or association with teacher education is likely to affect this balance. What needs to be determined, as far as this is possible, is the extent to which this balance would be affected and the consequences, in terms of the outcome of teacher preparation.

Here we come to the acid test that must be applied to any change in the structure of teacher education and in the character of the institutions concerned with it. This is to form some estimate of its ultimate effect on the number, type and quality of the teachers who emerge. The argument about the control of teacher education is partly an argument about the supply of teachers. The complexity of modern educational systems is such as to call for a considerable amount of planning based on sophisticated projections of the numbers of teachers of different kinds that will be required in future years. It is a moot question as to whether the effective control of teacher education by Universities is conducive to planning on the scale that would seem to be required. This is the major consideration that disposes many central and regional governments to favour a structure of teacher education within which they themselves are able to determine the numbers and categories of trained teachers rather than to leave the decisions, in this regard, to be made by the Universities or the teacher education establishments themselves.

That there is a manifest need for overall planning with regard to the numbers and specialist qualifications of the teachers required to serve a modern educational system cannot be denied. It is feasible, moreover, to suggest that this planning can best be undertaken or supervised by central or regional governments who are responsible

for managing the educational system and for employing teachers. It is less obvious, however, that it is in the best interests of all concerned that they should control the content of teacher education. There would seem to be a possible conflict of interests here. If teacher education is left to the direction of governmental agencies on behalf of the consumers, so to speak, this direction might well extend beyond the determination of the numbers and categories of the teachers to be produced, and might result in an erosion of the area for which teacher educators now exercise professional responsibility. It has often been argued that the Universities are the only educational institutions with sufficient status and influence to be able successfully to challenge threats to their academic freedom and that teacher educators would be well advised therefore to seek their patronage.

The most viable solution to this problem will be found to differ from one country to another, since it depends in part on the prevailing social and political conditions. We would suggest, too, that it depends on a thoroughgoing analysis of the predictable consequences of each of the possible forms of direction and control to which the education of teachers might be submitted. Furthermore we would argue that the most important criteria to apply in judging among the competing forms of organisation are those concerned not only with the quantity but also with the quality and effectiveness of the teachers that each is able to provide.

We must now turn to consider the kind of study and research that might enable us to reach a rational conclusion as to whether teacher education should be controlled by the Universities, governmental agencies, some combination of the two, or perhaps in other ways that are still to be explored. We may hope to make some progress by a detached critical analysis of each proposed structure. An even more promising approach would be to undertake comparative studies of countries which manifest sharply differing patterns of organisation in this regard. There are countries, such as the U.S.A. and the U.K., in which the trend would seem to be towards a growing concern on the part of the Universities with all forms of teacher education; there are others, the U.S.S.R. for example, in which the pedagogical institutes are largely independent of the Universities, but not inferior to them in status and prestige. And yet other forms of organisation are to be found elsewhere.

We are impressed by the methods of empirical research applied by I.E.A. (Husén 1967) in an attempt to relate an array of organisational and other variables to achievement in mathematics. The rationale of this approach is that whereas, within a single country it is often impossible to estimate the effectiveness of a particular kind of organisation because variants of it are not available for the purposes of comparison, a study involving a number of countries usually affords opportunities for making such comparisons. For example, if educationists in the U.K. wished to examine the effects on their subsequent achievement of children starting school at the age of six or seven

years, they would have to resort to speculation as a basis for any estimates they made, because, within the U.K., it is a statutory requirement that all children should enter school on reaching the age of five. By studying a sample of children drawn from, the U.K., the U.S.A., and Norway, it would be possible, however, to arrive at a firmer assessment, since the sample would include children normally entering school at five, six and seven years of age.

By the same token, comparative studies carried out in a sample of countries manifesting different patterns of organisation with regard to teacher education could serve to illuminate some of the issues we have been discussing.

1.12 The scope of activities

Another group of problems associated with the organisation of teacher education, and which we recommend as candidates for investigation, are those concerning the extent to which many of the institutes established for this purpose are too narrowly specialised and restricted in scope.

A charge commonly levelled against teacher education establishments both by outsiders and by some of the staff and students within them is that, in many instances, they deny to their students opportunities for effective contact with those preparing to enter other professions. By their very nature Universities bring into close association prospective members of a wide variety of professional groups. Although pursuing distinctive courses, potential scientists, engineers, architects, doctors, lawyers and others are able to commingle in a variety of social activities and so to enrich their education and broaden their experience. Not infrequently, by contrast, intending teachers find themselves in a relatively isolated situation. They leave school, undergo professional training in the exclusive company of other embryo teachers, and then return to school — which many of them regard as a vicious circle with a very short radius.

One possible solution, to which we have already referred, is that all forms of teacher education might be accommodated within a University or within some other institution for higher education, so that, outside the classroom at any rate, students would be able to encounter their counterparts in other professional courses.

A less drastic reform has been widely advocated (e.g. by Musgrove (1962) and Halmos (1965) which would involve retaining those establishments that are at present devoted exclusively to teacher education, but extending the courses provided to cater for the needs of a variety of students who were preparing to enter certain other related professions. The prospective entrants to a wide range of "caring" professions, as they are sometimes called — those concerned with various aspects of welfare work amongst children and young people — could be conveniently educated alongside intending teachers.

We recommend this possibility as a suitable topic for study and research. One line of investigation that could be adopted would be to submit to detailed analysis the courses provided for various related professions with a view to discovering the extent to which they are correlated. It is feasible to suppose that, in some instances, potential entrants to the welfare professions could not only be conveniently educated within the same establishment as intending teachers, but could profitably share with them some of the same courses. Courses in the "foundation" disciplines — psychology, sociology, and philosophy —, for example, could no doubt be adapted to suit the needs of all concerned and it might be supposed that those who were being prepared to undertake child welfare work of some kind could, with advantage, study some aspects of educational theory, school organisation, and even teaching methods. Another form of investigation could involve follow-up studies, designed to examine the outcomes of such combined courses as are operating at present or, alternatively, to evaluate the outcome of such a course set up experimentally. In the latter instance it would be possible to compare the apparent effects of the experimental arrangements with those of the existing separate courses. Among the possible outcomes that could be investigated we would suggest : the effects of such combined courses on the morale and attitudes of the students concerned during the course itself ; their effects on the subsequent attitudes and performance of those trained in this way ; the extent of gains to and losses from the teaching profession as a result of students being tempted to change from one course to another during this period of training ; the effects in terms of increased cooperation and mutual understanding among those trained in this fashion.

Another kind of specialisation characterises many teacher education institutions and serves to restrict the range of experience made available to the students. This is the tendency for a number of such establishments to concentrate on the professional preparation of teachers for a particular type of school, age-range of pupils, or group of subjects. Thus there are some institutions devoted exclusively to educating prospective secondary school teachers ; others concerned with those who intend to teach in primary schools or infants schools ; others again that specialise more narrowly in that their students are prepared to teach only physical education, for example, or art and crafts, or domestic science. Perhaps the most rigid division, and the one that has had far-reaching consequences in terms of the status and morale of the teachers concerned, is that between the training of primary and secondary school teachers. In many countries primary school teachers tend to undergo a form of preparation that is not only different from that accorded to intending secondary school teachers, but which enjoys a lower prestige. The result is that primary school teachers often feel relatively isolated from and inferior to their colleagues in secondary schools. This, it must be supposed, has adverse effects not only on the teachers themselves but, as a conse-

quence, on the progress of their pupils. The transition from primary to secondary education is still, in many countries, more abrupt than is desirable from the pupils' point of view. It cannot be in their best interests that in the two stages of their education they encounter teachers who have undergone markedly disparate forms of training which have often resulted in the adoption of contrasting attitudes towards school organisation, class management and techniques of teaching.

We would recommend, therefore, as an important area for research a comparative study of different degrees of integration between the courses offered to candidates for primary and secondary school teaching. Different patterns exist between countries and, in many instances, within countries. The possible effects of closer integration that deserve attention are : the subsequent degrees of mutual understanding and cooperation between primary and secondary school teachers ; the extent of interchange of staff between the different types of school ; the effects on recruitment — particularly on the tendency that such an integration, and consequent upgrading of primary courses, might produce towards attracting more able men to enter primary school teaching ; the effects on the morale of teachers and on their professional unity.

The scope of teacher training institutions is often unduly restricted in a third respect. Their activities and responsibilities are commonly largely confined to the provision of pre-service courses. The possibility of extending their area of concern to cover the needs of young, inexperienced teachers and to include in-service courses will be discussed in a later section.

1.13 Internal organisation

In discussing the character of teacher education institutions we were impressed by the potentialities of research into the effects of different forms of internal organisation. The work of Barton (1962), Sanford (1963), Shipman (1967) and many others has served to indicate ways in which such effects might be profitably investigated. It is abundantly clear that such features of internal organisation as the degree of authoritarian control on the one hand, or of democratic participation, on the other, have effects on the kinds of programmes that are devised, the methods employed, and on the social and personal development of the students involved. What is by no means clear, however, is the precise nature and extent of these effects. We need a good deal more knowledge than we possess at present if we are to be able to manipulate these organisational factors so as to exercise some control over the results that they produce.

This would seem to be an opportune time at which to investigate the consequences of different patterns of internal organisation. There is a good deal of evidence to show that considerable changes are being introduced into the ways in which institutions in many different coun-

tries are being governed and administered. The present climate of opinion favours a considerable degree of participation in the ordering of school, college and University affairs not only by the staffs of these institutions but also by the student body. Teacher education establishments in many places are responding to pressures for change in this direction and it should be possible therefore to discover an array of different patterns of organisation and to make some systematic comparisons of their effects.

It should be noted, in this context, that in order to identify and to categorise patterns of organisation it is not altogether satisfactory to rely on descriptive accounts or replies to questionnaires. There is a need for intensive studies conducted, in situ, by sociologists and social psychologists. We need to be able to distinguish between, for example, the formal and the effective chain of command, between those who are nominally responsible for policy-making decisions and those who, in fact, determine the procedures to be followed. Research in this field needs to concern itself less with the overt structure of the constitution and more with the subtle interplay of influences that go to make up its ethos.

1.2 Pre-service Courses

In reviewing the broad organisation of pre-service courses as distinct from their content and methods, which are to be considered in subsequent sections, we have selected as the most crucial issue the choice between concurrent and consecutive forms of professional training.

For the most part, but not exclusively so, the concurrent pattern has been adopted in courses designed for intending primary school teachers and the consecutive kind of provision afforded to those destined to teach in secondary schools.

This division is a historical one. Secondary school teachers were traditionally recruited from the ranks of University graduates, often without further professional training. Primary school teachers were initially recruited from the schools, so that such professional training as they received was given at the same time as the prospective or apprenticed teacher was endeavouring to continue his own academic education. When training for the latter became more extensive and formalised the two forms of education continued to be provided concurrently.

To explain the origins of a practice is not, of course, tantamount to justifying its continuance. Now that, in many countries, radical revisions are taking place in the arrangements for the education of teachers it would seem to be desirable to submit these contrasting procedures to close scrutiny so that a choice between them can be based on rational argument and supported, as far as possible, by firm evidence.

A long-term research into this problem is currently being carried out at the University of Keele, U.K., but even if this yields positive results a considerable amount of replication and extension of this kind of investigation will be required before a confident judgment can be made of the relative merits of the two approaches.

There are several arguments frequently advanced in favour of or against each of these ways of organising pre-service courses which could usually serve as hypotheses to be examined in any controlled study of this issue.

It has been maintained, for example, that a concurrent course engenders in those pursuing it a higher level of vocational motivation than is manifested by those who do not encounter professional training until they reach the post-graduate stage. The implication of this would seem to be that the universal adoption of concurrent patterns of preparation would result in a reduction in the number of those graduates who are now lost to the profession, in not insignificant numbers, during or very soon after their course of training.

A somewhat conflicting argument is that imposing an earlier choice of career on all prospective entrants would adversely affect recruitment, on the grounds that at present a number of graduates discover an interest in teaching during the course of their academic education or even after its completion.

Clearly there is a need here for a somewhat wider and more fundamental kind of investigation than the specific one under consideration. We need to know considerably more about the factors affecting choice of teaching as a career and, in particular, about the age at which the majority of entrants find themselves committed to it. Many other professions require a relatively early choice on the part of the prospective entrant and there would seem to be no *prima facie* grounds for arguing that teaching is distinctive in this respect.

To return to the more specific investigation that we are considering a further interesting hypothesis has been put forward which deserves attention. It is that when a student is required to pay simultaneous attention to the academic study of a subject and to such pedagogic considerations as the principles underlying the design of a syllabus and the methods whereby younger pupils may be most effectively introduced to the concepts that the subject involves, his own understanding is considerably enriched. He is better able to perceive the essential structure of the subject and to appreciate the distinctiveness of the mode of thought that it enshrines when he has grappled with the problem of how it might be taught to someone less mature than himself. If this hypothesis could be elevated to the status of a principle the effects on teacher education — and indeed on many other forms of education — would be considerable.

Finally, we would suggest that another argument commonly advanced as a claim for the superiority of the concurrent type of course could

be used as a hypothesis in the proposed study. This is that the opportunity that such a course affords for a deeper and more systematic study of the foundation disciplines and pedagogic theory and practice results in a higher level of competence in teaching than is normally obtained by those who undergo the consecutive form of preparation.

This then is the broad outline of the kind of investigation that would seem to us to be eminently feasible in that within several countries, as well as between them, these two patterns of organisation co-exist and could afford the required comparisons.

1.3 In-service Courses

In discussing the scope of the activities of teacher education establishments we referred to one conspicuous limitation, which, in recent years, has been widely publicised. This is the tendency — much less true of the present than of the past — for such institutions to confine their attention to pre-service courses. It has now become generally recognised that teacher education must be conceived as an extended process within which the pre-service course can be regarded as no more than an initial training and that the staffs of teacher education institutions will be required in the future to assume wider responsibilities and to play a part in planning and providing a variety of in-service courses for practising teachers.

Attention has been drawn to the special needs of newly-qualified and inexperienced teachers in this respect. Collins (1959) pointed to the crucial nature, for many young teachers, of their first appointment, and showed that not only is there considerable need for this to be carefully chosen but also for close supervision of the less able or the less confident teachers in their first few years. Clark and Nisbet (1963) also furnished evidence that highlighted the importance of the early or probationary period, during which appropriate and timely help can be of enormous value in enabling doubtful starters to develop into competent and useful members of the profession.

More ambitious concepts are now being elaborated for in-service training. The notion that initial training should be carried on into the early years of teaching is being replaced by the concept of a planned set of experiences integrated with and stemming from those that are introduced at the pre-service stage. There has been a good deal of discussion of plans and prospects in this regard but insufficient firm evidence has been adduced to provide a firm basis on which to devise a policy.

Research in this field has served only to scratch the surface. Cane (1969) has revealed some dissatisfaction on the part of teachers with the programmes of in-service education that are at present provided. Jiranck (1968) has reported evidence to suggest, on the other hand, that very few teachers, except some of the older members

of the profession, manifest interest in educational problems, and that the prospective market for in-service courses is not a very promising one. Tucek (1968) has conducted evaluation studies showing that in instances where a marriage has been effected between a relevant course and a willing audience, the outcome, in terms of the objectives achieved, was disappointing, and suggesting that the methods employed in such courses need to be reviewed.

There is, however, some more positive and encouraging evidence to be cited. Karbel (1963) has furnished evidence of benefits, in terms of improved confidence, skill in human relations and class management, derived by inexperienced teachers from systematic in-service courses, and McCollister (1964) has reported a survey which establishes that in Louisiana, at any rate, the consumers are reasonably satisfied with the courses that are being provided. Haan (1964) has also provided an encouraging report of a cooperative study involving a faculty of education, a psycho-analytic institute and a group of teachers, the objective of which was to examine, in depth, human relations and group dynamics. Independent estimates of the outcome, provided by school superintendents and heads, reported a perceptible increase in teaching skill, more personal initiative and a deeper understanding of human behaviour.

The researches that have been undertaken into aspects of in-service education do not afford results which can be generalised beyond the local conditions in which they obtained, and, indeed, do not even provide comprehensive evidence about the state of affairs within the countries to which they apply. In other words in-service education provides a virtually virgin field for research and systematic study.

- ✓ We would suggest that within each country there is a prime need for basic data of the kind that can be collected by systematic surveys. Although supply and demand are growing steadily, there would appear to be insufficient information available in any country to provide any clear picture of what is in fact being supplied and what demanded. Before any profound or sophisticated research can be attempted we need to accumulate this background knowledge. ✓

There are two aspects of demand about which we need a good deal of information. First, we need to find out about the demands that are being satisfied — in the sense, that is, that some teachers are seeking courses and finding them available. We know little about the teachers who are presenting themselves for in-service education. We need to identify them in terms of their age, sex, status and qualifications. Are they predominantly the young and inexperienced whose initial training has failed to provide them with the confidence that they require? Or are they mainly older teachers who have reached the stage at which they feel that their earlier training has become out of date and ill-adapted to present, changed conditions and who recognise the need to refresh their knowledge and to refurbish their skills? Are they the weaker brethren seeking help because they find it diffi-

cult to cope with their responsibilities ? Or are they the successful and confident who are now looking for avenues to promotion ?

It is just as important and of course more difficult to analyse the unsatisfied demand. This involves, distinguishing within the even larger group of teachers who do not attend in-service courses, those who fail to present themselves because they have ceased to interest themselves in educational problems, those who can satisfy their interests by other means, and those who would willingly attend in-service courses if a different bill of fare were offered.

This brings us to the question of supply. Here we have more information at our disposal in that in most countries it is possible to discover from published programmes at least the nominal content of the courses that are offered. As a preliminary to deeper investigations in this field, however, we need to know more about the ways in which the courses are presented, the level at which problems are discussed and analysed, the extent to which the pooled experience of the participants is utilised, and the distribution of emphasis among the possible objectives towards which such courses might be directed.

An analysis is needed too of the ways in which in-service courses are organised, to determine, for example, the relative proportions of part-time and full-time courses, prolonged courses and concentrated courses, and to discover the extent to which the offerings are isolated and episodic or are planned as sequential and cumulative experiences.

Finally we need to know more about the methods that are employed in in-service courses — the extent to which reliance is placed on the traditional modes of instruction such as lectures and seminars as compared with, for example, informal discussion groups or co-operative research projects.

The acquisition of this background information is a necessary prerequisite to the process of identifying the variables to be examined in more systematic studies. When we know what is provided, by whom, for whom, and in what manner and can specify the objectives towards which the enterprise is directed, we may then indulge ourselves in the more sophisticated exercises of evaluation.

We would add that a fundamental question that will need to be explored in these more advanced studies concerns the motivations of those who offer themselves for in-service courses and the corresponding incentives to which they are likely to respond. It is possible that in some countries different patterns of in-service education are sufficiently well-established to permit a valid comparison to be made between courses that are associated with tangible rewards such as salary increments and prospects of promotion and those that hold out no promises beyond the satisfaction of intellectual curiosity or a gain in professional competence.

1.4 The Staffs of Teacher Education Institutions

The testimony of disinterested observers and the evidence of objective research support us in claiming that the success of a school is mainly determined by the quality of its teachers.

By the same token we may suppose that the staffs of teacher education institutions have a comparably important role to play. It is surprising therefore that until comparatively recently they have been neglected as topics for research. The sociologists have begun to remedy this deficiency and information has been supplied by Floud (1963), Kob (1963), Taylor (1965 (a) and 1965 (c)) and others about the social background and academic qualifications of teacher educators.

The results of these inquiries are rather depressing. It is difficult to avoid the conclusion that in some countries the staffs of teacher education institutions are socially and academically sub-standard if, that is, one compares their mean levels in these respects with those who teach in the major faculties of the Universities.

There would seem to be two major contributory causes that have determined this outcome. We have commented earlier on the first of these. In relation to many other branches of higher education, teacher education enjoys relatively low prestige. Although this, happily, has not deterred a number of highly gifted individuals from entering its ranks, it has no doubt had an adverse effect on the general level of recruitment.

It is also, in part, a matter of choice. In many teacher education establishments, the members of staff are not academically distinguished largely because they have been selected in accordance with other criteria. It has been a broadly accepted principle governing the choice of teacher educators that they should themselves have had experience of teaching in schools. It follows, therefore, that in making certain kinds of appointment to the staff of a teacher education establishment — in selecting a philosopher or a psychologist, for example — some of the best qualified applicants may be rejected — or, more probably, because this requirement is widely known or stated, well qualified individuals, who lack teaching experience, will not be disposed to offer themselves.

At present there are considerable differences of opinion within the teacher education institutions themselves concerning the extent to which teaching experience should be regarded as an essential qualification. At one extreme there are those who would insist that such experience, and conspicuously successful experience at that, should be demanded of everyone who aspires to become a teacher educator. At the other end of the continuum, there are those who, particularly sensitive, perhaps, to the criticisms levelled by the Universities against the dubious academic standards of some teacher educators, are prepared to abandon this requirement altogether and to substitute

academic distinction as the major criterion to be applied in selecting members of staff.

Although these extreme positions receive support from only relatively small minorities, there is little consensus among the remaining majority of those who are directly concerned with this problem.

One of the guiding principles adopted by the members of the conference was that if a serious issue could be identified on which teacher educators were themselves manifestly divided there was at least a *prima facie* case for putting this forward as a suitable topic for study and research. We are disposed therefore to recommend that attention should be paid to the question of the qualifications that should be required of teacher educators and that, where possible, an examination of this problem should be supported by appropriate research.

As a first step a thoroughgoing analysis is required of the functions and responsibilities of teacher educators. It is safe to predict that this will reveal an increasing trend towards specialisation. Having identified the distinctive roles that teacher educators are required to fulfil and the objectives that these are intended to serve we may then be able to arrive at a judgment concerning the qualifications that would seem to be most appropriate in each instance.

The extent to which teaching experience needs to be regarded as an essential justification could then be seen in perspective. A possible conclusion might be that for some functions such experience is desirable and perhaps essential, but that for others it could be regarded as irrelevant.

In carrying out this analysis we would need of course to take into account and adequately to answer the arguments raised by those who adopt extreme positions on this issue. On the one hand we must examine the claim that the interests of intending teachers are ill-served if they receive their education, or part of it, at the hands of subject-minded academics, who have little or no experience of the needs and interests of school children.

On the other hand we must investigate the counter-claim that a form of teacher education that is predominantly controlled by experienced practitioners, with little knowledge of or respect for educational theory, is essentially sub-professional and will tend towards conserving traditional practices and is thus more likely to reduce rather than to increase a teacher's capacity to adapt successfully to rapidly changing conditions.

Furthermore we shall need to submit to close scrutiny the assumptions underlying the claims that are advanced on behalf of teaching experience. We need more precise information concerning the nature of its effects and the kind and length of experience that confers the greatest benefit.

There is one suggestion that has been put forward in this respect that could provide a starting point for empirical research in this field. The

proposal is that the advantages — as yet not specifically defined — that teaching experience confers upon a member of the staff of a teacher education institution could be just as effectively derived, or possibly more effectively so, through a short, planned induction course. In effect this is to advocate a reversal of the process whereby a sizeable proportion of teacher educators have become qualified in the past. A common pattern has been for an individual to become a qualified teacher, having graduated perhaps in one of the recognised academic disciplines. He then teaches for a number of years in one or more schools, during the course of which, either by means of a period of secondment or through part-time studies, he acquires some recognised qualification in pedagogy or in one of the foundation disciplines — psychology, sociology or philosophy. The proposed alternative is to recruit a man who has distinguished himself in some relevant discipline — a philosopher or psychologist for example — and to offer him a course in which he would be acquainted with the operation of the school system and afforded the experience of observing and teaching under guidance in a variety of schools for short periods.

We suggest that such a procedure could be introduced experimentally and evaluated with a view to discovering the extent to which a fore-shortened period of teaching experience proves to be as serviceable as that which is acquired over a longer period in the normal course of events.

It is feasible too that, if we are alert to the possibility, the opportunity might present itself of comparative studies which could throw light on the extent to which high academic standards and a markedly theoretical orientation are more or less serviceable as qualifications for a teacher educator than a long period of successful practical experience. It might be possible to discover two institutions whose staffing policies in this regard are markedly contrasted but which are comparable in other respects. In such circumstances it might be possible to detect in a follow-up study of the teachers emerging from these institutions differences that could be attributed to the kinds of preparation they had received — or, at least, such a study might suggest suitable hypotheses for subsequent and better controlled investigations in this area.

1.5 The Recruitment of Students

The students entering teacher education establishments have attracted a good deal more attention from researchers than have the staffs.

A good deal of this research, in recent years, has been concerned with the numbers of entrants and has been related to methods of projecting the numbers of teachers required at a future date: Horn (1963, 1969), Hillig (1964), Statistisches Bundesamt (1964), Moser and Layard (1964), Wenham (1968).

An even greater volume of research has been undertaken into the abilities and personal characteristics of students on entry and into the predictive value of these qualities in terms either of their performance on the course or, subsequently, as teachers.

Lieberman (1956), Wolfe (1964), Jiranek (1967), and others have furnished evidence to show that, in comparison with entrants to other professions, intending teachers manifest relatively low levels of ability and attainment.

But within the range represented among the entrants to teaching there is little evidence to suggest that measures of general ability are at all substantially correlated with subsequent effectiveness in teaching. There is in fact some evidence of non-linearity in the observed correlations which suggests — although the evidence in this respect is far from conclusive — that there is an optimal level of ability and that there may be some individuals whose failure as teachers may be associated with exceptionally high intelligence. This may be of some comfort to those concerned but the evidence does not justify the use of this finding as a basis for policies of recruitment.

A comparably low correlation has also been regularly reported by those who have related academic achievement to teaching effectiveness. In this respect an interesting result, the implications of which perhaps deserve careful study, has been reported by Worcester (1961) who showed that a student's level of attainment at school provided a better forecast of his teaching effectiveness than his subsequent level of achievement in college or University.

A good deal of research has been carried out also into the motivation, interests, attitudes and personality traits of students who enter teacher education institutions : Undentsch (1964), Dickson et al (1965), Wiseman and Start (1965), Koudelka (1966), Macfarlane Smith (1966), Nezvalova (1966), Haas (1967), Kotasova (1967), Meress (1967). Start (1967), and others.

Much of this research has proved disappointing in two respects. It has not proved to be sufficiently conclusive to serve as a guide to recruitment, and such evidence as it has yielded provides a somewhat depressing picture of the qualities of many of those who come forward for training as teachers. We saw from the previous group of researches that intending teachers have relatively low levels of ability and attainment (in relation to other professions, that is) ; from this group we find evidence of a somewhat low level of motivation, a restricted range of interests, a tendency towards passive, convergent thinking, towards dogmatism, and somewhat authoritarian attitudes.

Finally, in considering the research that might be relevant to the problems of recruitment and selection we are faced with the largest and perhaps the most inconclusive group of all. This is the body of research that has been concerned with investigating the personality traits of teachers and attempting to relate these to teaching effecti-

veness. Among the researches carried out outside the U.S.A. we might cite as examples : Langeveld (1963), Wall (1964), Fiser (1967), Oliver and Butcher (1968), Svoboda (1970). In this, as in many other instances, the U.S.A. must be considered as a special case. A list of the relevant American studies in this field would occupy a good deal of this report. Summaries of this research have been provided by Getzels and Jackson (1963), Biddle and Ellena (1964) and Flanders (1969).

Reporting on this vast array of research Getzels and Jackson (1963) have concluded :

"Despite the critical importance of the problem and a half-century of prodigious research effort, very little is known for certain about the nature and measurement of teacher personality or about the relation between teacher personality and teaching effectiveness."

In the light of this conclusion, to which most of those who have acquainted themselves with this volume of research would subscribe, we are understandably exercised as to what useful recommendations we might put forward.

The recruitment and selection of entrants to teacher education institutions are clearly matters of crucial importance. We should like to be able to identify and satisfactorily to assess the qualifications and qualities that are associated with effective teaching and to use this knowledge in our procedures of selection. But we find that "a half-century of prodigious research effort" has enabled us to make very little progress in this direction.

It would clearly be pointless for us to recommend that there should be more research of the same kind. What is called for is a fresh approach to this problem, a more fundamental analysis of the process of teaching which in turn might throw more light on the kind of skills, qualities and traits that are required of those who undertake the task. We shall offer some suggestions concerning the kind of research that would seem to be needed in the final section of this report.

2. CURRICULUM AND CONTENT

In this section we discuss some of the problems that are involved in determining the content of teacher education.

We examine first of all the academic courses, designed to further the personal education of the students concerned and to equip them with the knowledge and skill that they will subsequently transmit to their pupils.

We then consider the range of professional courses which are concerned partly with methods of teaching, but also aim to introduce the student to those concepts and principles, derived from the disciplines basic to the study of education, which are intended to serve as a theoretical framework to guide him subsequently in making his professional choices and decisions.

We discuss, thirdly, the ways in which these two aspects of the total course may be related and perhaps more closely integrated.

Finally we offer our recommendations concerning the kinds of study and research that we feel should be encouraged and developed in this area.

2.1 Academic Courses

2.11 Courses for primary school teachers

Academic courses for intending primary school teachers could formerly be regarded as designed almost wholly as a means of furthering the students' own intellectual development. For their personal satisfaction it was reasonable to make provision for the further study of such subjects as satisfied their needs and interests. The content of what they were destined to teach, on the other hand, was so basic and simple as to be taken for granted. What they required in this regard was guidance in framing appropriate syllabuses and schemes of work, and suggestions as to viable techniques of teaching. This latter, of course, is the province of the professional or pedagogic part of the course. This approach was reasonable enough when primary education was largely restricted to teaching the basic skills. An entrant to a teacher education establishment did not require to be taught to write, to spell, to read or to do simple arithmetic. He needed only to be instructed in the methods of fostering these skills in young children.

Developments in recent years have radically changed the content as well as the methods of primary education. It is now considered appropriate for children at the primary level to be introduced not only, as before, to the basic academic skills, but to mathematics (as distinct from arithmetic), to elementary science, to a foreign language,

to music — both as an appreciator and a performer — to art, and to a variety of other "subjects".

The situation confronting the prospective teacher is therefore very different from that of his predecessors. There are few students who can be regarded as equipped at the outset of the course to deal with the full array of knowledge and skill that they may be required to deal with in the modern primary school. It is necessary nowadays, therefore, for academic courses to be provided for them that are not only related to their personal development but to the content or subject-matter that they will subsequently be called upon to teach.

The question now arises, therefore, of whether it is feasible to conceive of teachers in primary schools as general practitioners. Is it possible for all teachers to teach all the subjects in the current school curriculum at all — let alone with equal effectiveness? There is some research evidence (Goldberg and Passow (1966)) to show that even where a fairly conventional and restricted range of subjects is concerned, it is found that many teachers are significantly more effective in dealing with one subject rather than another. There are likely to be even more pronounced discrepancies in this regard if the present trend for broadening the primary school curriculum continues.

We have identified, therefore, as the major problem in this particular area that calls for study and research, the extent to which it is necessary, possible, and desirable for there to be a degree of specialisation in the academic courses provided for intending primary school teachers. We suggest that those who design teacher education courses, in consultation with Heads and teachers in primary schools, and with the students themselves, should identify various groups of academic subjects which, in number and composition, might satisfy both the needs of the students and those of the schools. The courses so devised should be regarded as experimental in character and their outcome examined with regard both to their immediate effects on the progress and morale of the students involved and also, in the long term, to their effects on the life and work of the primary schools to which these students eventually proceed.

2.12 Courses for secondary school teachers

The academic courses offered to those who are being prepared to teach in secondary schools tend of course to be of a specialised kind. The problem, as we see it here, is the extent to which, in some instances, the degree of specialisation reaches inordinate proportions. There is a stronger likelihood that this will be the case when the consecutive pattern of preparation is adopted and students undergo their academic education in University faculties.

It is the problems that arise within this latter context that we have selected as being most deserving of attention. There is a marked tendency, more pronounced in some countries than others perhaps, and evident in some subject areas more than in others, for an increasingly

narrow specialisation at the University level. It is not uncommon therefore for a prospective secondary school teacher to regard himself as competent to teach only one of the subjects in the school curriculum. Indeed specialisation sometimes goes further and we find graduates stressing the epithets that specify their particular areas of competence, describing themselves, for example, as organic chemists, urban geographers, medieval historians, and so forth.

It is clear that in many, perhaps most, instances those who organise courses within the University faculties do not, in planning their content, take into account the needs of those whose intention it is to teach the subject to secondary school pupils. Many of them would be disposed to regard this as an altogether impertinent consideration. In suggesting that it ought to be regarded as highly relevant is perhaps to reveal the biased view that teacher educators might be expected to adopt. We would suggest, however, that even an objective observer might well, given the facts of the case, come to share this view. One of the most significant of these facts is that in many of the major University faculties and departments a sizeable proportion of the students preparing themselves for a degree are likely, eventually, to find themselves teaching in secondary schools. Moreover, many of these are committed to teaching as a career from the outset.

In these circumstances it would seem to be singularly unfortunate that University courses, as they often are, should be planned with other ends in view. The envisaged product of many such courses is a person equipped to pursue research in, perhaps, one very narrow segment of his chosen discipline. One result of this is that many of those who enter upon their subsequent, inevitably short, professional course find the transition from the rarefied atmosphere to which they have been accustomed, to that within which the workaday life of the school is conducted, abrupt and uncomfortable in the extreme. Graduates in a particular subject frequently complain that they are completely out of touch with its contents at school level and find it necessary to indulge in a good deal of re-learning and adjustment.

We are not of course advocating that the academic education of intending teachers should be restricted to those areas of knowledge and levels of intellectual activity that are appropriate at school level, and that they should be denied a visit to the frontiers of knowledge to which their subject extends. We would suggest, however, that although a visit to these frontiers might well be valuable and rewarding, if it is made at the expense of a thorough investigation of the hinterlands it might prove to be something of a disservice to prospective teachers.

The kind of study and investigation that we would recommend in this field would start from an analysis of the aims and appropriate content of a particular subject at the secondary school level. From such an analysis it should be possible to discern the kinds of background knowledge and understanding that a teacher requires if he is to serve

as an adequate guide to his pupils. The next step would be for teacher educators to enter into consultation with the appropriate members of the University faculties with a view to determining the kinds of experience that would best equip an intending teacher in these respects. Such consultations might well lead to some modification in the courses provided by the Universities and, finally, the influence of these courses on the effectiveness of the teachers thus prepared would need to be examined.

Another, related problem to which we should like to draw attention concerns the possibility of providing for some students a variety of academic courses as distinct from requiring them to select a relatively specialised field of study. The question here is the extent to which some students would like to become general practitioners rather than specialists and the extent to which secondary schools would welcome the former as recruits to their staffs.

Arguments have been put forward on behalf of this proposal on a number of levels. On purely practical grounds the Heads of secondary schools look for, and frequently do not find, teachers able and willing to teach several subjects to the more junior pupils. The problems of time-tabling become complicated if the available teachers cannot be asked to step outside their specialist fields. This provision is also sought on educational grounds. For the younger pupils in secondary schools, it is maintained, there is considerable advantage in the arrangement whereby they may be attached to someone who will be their teacher for a range of subjects and thus be in regular and close contact with them for considerable parts of the day. This serves to establish the kind of relationship which cannot develop so easily when the pupils have no more than fleeting encounters with a wide array of subject specialists.

It is also possible that an arrangement of the kind we are considering, if it became a systematic part of teacher preparation, could have a pervasive influence on the intellectual development of secondary school pupils. From many countries are encountered complaints that this development is often imbalanced to an undesirable extent. The tendency for secondary school pupils to develop strong interests in and marked preferences for particular subjects and areas of knowledge is clearly not to be discouraged. If, however, this is accompanied by ignorance of and, worse, a lack of respect for other kinds of knowledge and ways of thought, the result can be unfortunate for the individuals concerned and, ultimately, for the society to which they belong.

It is reasonable to suppose that the tendency for secondary school pupils to manifest markedly uneven intellectual development is associated with that of populating school staffs with relatively narrow specialists. Ideally, perhaps a teacher should have some familiarity with and preferably some grounding in all the major fields of knowledge and the modes of inquiry appropriate to each. Although this

may be unattainable, we suggest that the possibilities of moving in this direction should be explored.

Various patterns of academic education might be experimentally introduced and their viability and effectiveness assessed. Two possible patterns — although others could no doubt be devised — suggest themselves as candidates for investigation. One might consist of a course comprising two or more subjects — the potential loss of depth for the sake of breadth would no doubt have to be considered as a limiting factor — drawn from contrasting disciplinary groups. A teacher who could claim affiliations with each of two factions — the sciences and the humanities, for example — who were eyeing each other suspiciously could no doubt serve as an effective mediator. Another approach might be to conserve the specialist choices that normally operate but to offer complementary courses designed to familiarise students with the modes of thought that distinguish the fields of knowledge other than his own.

2.2 Professional Courses

Professional courses contain two distinct elements: there is that aspect of the course which is concerned with the disciplines basic to the study of education; and the one concerned with pedagogic methods.

2.21 The basic disciplines

There would seem to be considerable dissatisfaction with the ways in which the basic disciplines — the subjects that go to form the "foundation" courses in institutes of teacher education — are introduced to students and a whole array of problems therefore that could be paraded for inspection. We have selected as having special priority the problem — or rather group of problems — that has been created by the pressing practical need to carry out some pruning and selection among and within these disciplines.

The situation in most countries is that teacher education has to be carried out within the space of four academic years between a student leaving his secondary school and presenting himself as a qualified teacher. In one or two countries, this period may be extended; in others, circumstances demand that, temporarily at least, it has to be substantially foreshortened. In the main, however, the length of course that we have indicated would appear to be the norm.

The general requirement, particularly for intending secondary school teachers, is that some two-thirds to three-quarters of this time should be devoted to academic education. In consecutive courses, for example, usually only one year of this period is devoted to professional studies and, even of this, a substantial portion is assigned to practice teaching in schools. Thus the time that can be devoted to

the study of the basic disciplines may be reckoned in terms of months.

In spite of this severe restriction, the range of studies that teacher education institutions are invited to include within their professional courses has enlarged considerably. It is advocated that within the time available students should be required to study psychology, sociology, philosophy, the history of education, and comparative education. Recently strong claims have been made on behalf of the inclusion of the economics of education and, of course, educational technology — the study and practical experience of the wide range of instructional aids that are now being made available to schools. This latter, although not classifiable as a basic discipline in the sense in which, for example, philosophy and the social sciences are, is nonetheless an area of concern which must compete for a place on the time-table within the same segment of the total course.

Even if it were possible for the time assigned to academic courses to be somewhat reduced and even if the total period available for initial training could be extended, we would still have to face the fact that professional courses as at present envisaged are overburdened.

What we recommend is that a comprehensive review should be undertaken of the contribution that each discipline or area of study can be expected to make to the preparation of teachers and that on the basis of this review an attempt should be made to establish priorities. This, as we have suggested, should take place among and within the subjects we have listed. In other words it must, we feel, be envisaged, in present circumstances, that some of them should be regarded as dispensable luxuries or optional extras as far as initial courses are concerned.

This of course makes the proposed exercise very difficult. It is only those who are conversant with these disciplines who are competent to judge their relevance to teacher education ; and most of those who are conversant with them are likely to have a vested interest in their retention. Perhaps, however, the task will be regarded as more feasible if we emphasise that its terms of reference apply only to the content of initial courses. That all the disciplines and areas of study to which we have referred are relevant to the study of education is not to be denied. Nor is this the question at issue. The point to be stressed is that intending teachers cannot be expected to make a complete study of education during the course of their pre-service training. In terms both of the breadth and depth of such a study we must conceive it as an extended process, involving advanced courses, in-service courses and, perhaps, participation in research.

Furthermore, we would point out for the comfort of those who might feel that their status could be threatened by the kind of inquiry we are proposing that teacher education institutions are gradually assuming and are being expected to assume responsibilities far wider than those involved in providing courses for intending primary school or secon-

dary school teachers. As well as being called on to make an increasing contribution to the in-service education of practising teachers they are being required to offer a range of specialist courses in school administration, guidance and counselling and in many other areas. The members of staff are also expected to pursue their own study of education and to carry out research. For this variety of purposes all the subjects we have listed must obviously be represented in teacher education institutions, although not necessarily in their initial courses. Even if the study that we are proposing were successful in identifying the disciplines that are most relevant to the needs of teachers at the outset of their careers and it became possible to secure a consensus on the question of restricting their number, it would still be necessary to agree on limitations of content within those areas that survived the pruning process.

If, to take an example, it were agreed that the study of sociology and comparative education could, without disadvantage, be deferred but that psychology and philosophy are relevant to the immediate needs of a young teacher, we have still to accept the fact that the students concerned cannot become psychologists or philosophers in the time available and that they will have to embark on a lengthy period of subsequent study if they have ambitions in this direction. We are therefore faced with the need to determine what aspects of these chosen subjects and what form of approach is most serviceable for intending teachers. Fortunately, in this respect, a start has been made on the kind of analysis we are recommending. Hirst (1963) and Reddiford (1967) have examined the contribution of philosophy ; Wiseman (1963), Nunney (1964), Schoben (1964) and Morris (1966) have studied that of psychology ; Taylor (1961) and Musgrave (1965) that of sociology. There are also a number of studies of a more general nature on the content of professional courses, such as those of Harap (1962), Walton and Kuethe (1963) and Stanley (1966). We still lack, however, an adequate rationale on which to base the necessary choices to which we have referred.

2.22 Pedagogic courses

The content of pedagogic courses we have found difficult to determine. There have been many published accounts and discussions of the pedagogical element in teacher education (e.g. Charlton (1960), Conant (1961), Karteszi (1961), Hapke (1963), Hazard (1966), Nagy (1967), Szathmary (1967), Tausch (1968), Zifreund (1968), Culik (1969) and others), but it is difficult to discern many clear trends or consistent patterns in this area.

There is one disturbing fact that the available evidence makes abundantly clear and to which our shared experience also testifies, and that is that this element of teacher education has fallen into singular disrepute. This is particularly disturbing because the matters with which pedagogic courses are nominally concerned represent the

most distinctive features of teacher education. The other broad aspects as we have described them — academic courses, and courses in the various disciplines basic to a study of education — closely correspond to those that may be offered in other contexts. A person may study history, mathematics, the natural sciences and all the other subjects that comprise the school curriculum in a variety of educational institutions. He may also study philosophy, psychology and sociology — even with some reference to educational phenomena — in higher educational establishments of several kinds. It is only in those institutions that are devoted to the professional preparation of teachers, however, that he may expect to encounter formal courses concerned with, for example, the principles underlying the organisation of curricula and the composition of syllabuses for children of different ages, and the techniques of teaching and class management.

These form the traditional content of pedagogic courses and there was a time when it could be assumed that these courses involved the transmission of a corpus of established and reputable knowledge. If our conference had been held thirty or forty years ago we should not have found ourselves in our present dilemma of finding it difficult not only to identify the problems associated with pedagogic courses but even to offer any satisfactory generalisation concerning their content. Our forebears were perhaps fortunate in a number of respects. Their task was to prepare, or to "train" — as they described it — students to function within what was then a relatively stable situation. The curricula of the schools, at all levels, commanded a general consensus and thus required little or no justification, and the content of the subjects comprising these curricula had remained relatively constant for a considerable period. In these circumstances, those who themselves taught successfully for some years could be held to have something valuable to contribute to the training of intending teachers. Because the situation they had left was almost identical with the one their students were about to enter, their experience as teachers was manifestly relevant to their task as trainers of teachers. They could provide an accurate description of the demands that would be made on the beginner's resources and of the problems he would encounter. They could then offer advice on the way to meet these demands and to solve these problems that could be supported by a mass of anecdotal evidence. They and their colleagues had tried and, to their satisfaction, proved the worth of a variety of approaches and techniques. They passed on the fruits of their experience with considerable confidence in the form of aphorisms and slogans which still enjoy currency and which probably enshrine a good deal of wisdom.

Nowadays the teacher educator does not find himself in this comfortable and respected position. His responsibilities can no longer be defined in terms of handing on traditional knowledge concerning school curricula and methods of teaching. He is in the position rather of trying to help his students to predict the shape of things to come

in these respects. It is because he has been temporarily assigned the role of a prophet rather than that of an acknowledged expert in pedagogic matters that many, as we have seen, have argued that his services are no longer required. It is particularly towards the pedagogic courses in teacher education institutions that criticism is currently directed from outside ; and it is concerning the content of these courses that teacher educators themselves feel especially uncertain.

Those who are responsible for this aspect of teacher training have become disconcerted not only by the growing tendency for practising teachers and administrators to disparage their contribution on the grounds that it has lost its relevance, but also by the more oblique but no less insistent criticisms that are levelled against them by some of their own colleagues. Now that the gates of teacher education institutions have been opened to philosophers and social scientists, few assumptions that cannot be defended by rational argument or are unsupported by empirical evidence remain unquestioned. A man's experience and demonstrable practical competence were once regarded as providing sufficient justification for the statements he made and the advice he offered. This is a view that is manifestly unacceptable to those whose stock-in-trade is conceptual analysis or psychological research — and, moreover, likely to be unacceptable to the students who have been introduced to these modes of inquiry.

Whether it is for these or other reasons, it is clear that the pedagogic courses that are currently offered lack authority and conviction. Our impression is that they represent a curious amalgam of traditional elements and hastily improvised innovations. With reference to school curricula, there would seem to be a widespread tendency for institutions to be trying hard to bring their courses up to date. This would seem, however, frequently to involve them in accepting uncritically the latest offerings of subject experts and representing these to their students as having a validity which, in many instances, has not been established. All too often in this field new dogmatisms are being exchanged for the old.

Courses on methods of teaching commonly retain the old hortatory maxims interspersed with some doubtful extrapolations from theories of learning.

We are well aware that there are honourable exceptions to which these strictures do not apply, but the evidence that we have examined leads us to the conclusion that, in the main, it is in relation to pedagogic courses that the most crucial problems of teacher education are to be found. Clearly, therefore, there is urgent need for study and research in this area. Nevertheless we are not disposed to make specific recommendations under this head, because, in our view, the study and research required to resolve the issues we have been discussing must be of a both broad and fundamental kind and must take into account not only the pedagogical elements of teacher education but the full range of its components. An outline of the approaches we wish to encourage will be given in the following section.

2.3 The Problems of Balance and Integration

That teacher education is fragmented into a number of relatively isolated parts and that its effectiveness could be improved by bringing them into a closer relationship are topics that have been frequently discussed and occasionally investigated (Ogorodnikov (1967), Owens (1967), Taylor (1969 c)).

Many of the problems that we have identified in this section stem from the manifest disunity of purpose among the groups that contribute to the education afforded to intending teachers. This is largely a consequence of the fact that teacher education has never been systematically planned but is the product rather of haphazard development and improvisation. Its structure resembles that of a house which, having been found inadequate for its purposes at various times, has, on each occasion, been modified and enlarged by a different architect. At no stage in its reconstruction has a total design been conceived.

These divisions of function and responsibility are most clearly manifested in the education commonly provided for intending secondary school teachers, particularly when this is of the consecutive kind. In these circumstances, the relevant academic courses are often provided within the major University faculties. Such courses are isolated from the other, professional courses, in that they not only occur at a different time and in a different place, but, as we have seen, those who plan and conduct them do not usually envisage them as a part of teacher education at all. It is largely incidental to their major concerns that, at the end of the course, some of their students should turn to school teaching as a career.

For some time this constituted the only preparation deemed necessary for teaching relatively able pupils at the secondary school level. It was assumed that if such children were brought into contact with soundly educated persons their needs would be adequately served. And indeed it has to be admitted that some highly effective teachers were produced by, or perhaps in spite of this highly unsystematic procedure.

The next step was to add an element of professional training. This followed the academic course and was provided by former teachers whose status was determined and justified by the extent to which they could claim to have had successful experience of teaching their subjects in schools.

Initially professional training was confined to the provision of pedagogic courses as we defined them in the previous section. Later this was gradually extended to embrace the range of subjects we discussed under the heading of the basic disciplines. These subjects were not introduced into the programme simultaneously ; they arrived at intervals and each has had to compete, first with the established part of the course, and later with other proposed additions to it for a place in the total pattern.

What is significant, with reference to the problems that we are discussing here, is that the introduction of these new subjects into the timetable was not at once accompanied by the recruitment of members of staff qualified to teach them. The potential contribution to teacher education of, for example, philosophy and psychology were recognised long before there were philosophers and psychologists available to represent these disciplines within the institutions concerned. This led to the development of a paradoxical situation : that of professional training administered largely by amateurs. This served to widen the gulf between those responsible for the academic education of intending teachers and those who undertake their subsequent professional preparation. The former could be indulgent towards colleagues whom they suspected of nothing worse than a slight inferiority in academic level ; the growing suspicion that they were guilty of charlatanism destroyed the prospects of effective communication and cooperation.

The subsequent arrival on the scene of qualified philosophers and social scientists has served further to complicate the issue. We may now discern three distinct groups of individuals sharing responsibility for teacher education, with different backgrounds, qualifications, and views concerning the needs of intending teachers and the priorities that should be established amongst them. The chief obstacle perhaps to achieving an effective integration of their efforts is the fact that each has tended to develop a defensive posture with regard to the relative status and relevance of his distinctive contribution.

Although these divisions are seen to be most pronounced within the consecutive arrangements for the preparation of secondary school teachers they are reflected nevertheless in those institutions concerned with intending primary school teachers which, in the main, adopt a concurrent pattern of training. Although it would seem more probable that a balanced and integrated programme could be achieved in these circumstances, there has not been a good deal of conspicuous progress in this direction. Such institutions are inclined to manifest a pecking order among the groups responsible for the different kinds of preparation that are offered and, consequently, the courses that they provide fail to achieve a harmonious pattern.

We are not optimistic concerning some of the piecemeal reforms that are being undertaken or proposed as solutions to this problem. Attempts to plan the sequence in which topics are presented in the various courses in the hope that their coincidence and convergence will achieve the desired degree of integration are, by themselves, unlikely to prove adequate. Similarly, the assumption that the students themselves, given the present variety of offerings, may be relied upon to effect the necessary selection and integration for themselves is tantamount to avoiding the issue.

Our conclusion is that the only effective means of arriving at solutions to the problems associated with the curriculum and content of teacher education is to embark on two major types of investigation :

one designed to establish a rationale on which choice and decision in this area may be based ; and the other to evaluate empirically the effectiveness of such curricula as are adopted.

In the subsequent and final part of this section we elaborate these proposals and relate them to some relevant current investigations.

2.4 Relevant Research

The first of our two major proposals for study and research in this area is that, by applying the processes of rigorous, critical analysis, an attempt should be made to associate the various components of teacher education within an articulated conceptual system. The ultimate objective of such inquiries would be to establish theories of teaching and hence of teacher education which will enable us to identify the content and methods that will be most appropriate and serviceable. This is the long term goal of such studies. In the short term we would hope to establish a number of guiding principles which would command a sufficiently broad consensus to allow us to fashion courses of teacher education that exhibit a logical coherence.

There is evidence of a developing interest in this fundamental and comprehensive approach to the problem of curriculum and content (NEA (1960), NEA (1963), Stukat (1969)) and there is one promising line of inquiry to which we should particularly like to draw attention. This is a current project of the American Association of Colleges for Teacher Education : "A proposal for the revision of the pre-service professional component of a program of teacher education" (LaGrone 1964). This latter constitutes an interesting attempt to devise systematic teacher education courses in which the aims, curricula and methods are overtly interrelated within an explicit conceptual system. We have referred to this as a promising line of inquiry because it has progressed sufficiently to have yielded concrete illustrations of courses for which a recognisable rationale can be provided. In other words those who have participated in this project have demonstrated the feasibility of the approach that we advocate.

The second of our major proposals is for the extensive application to teacher education of those methods of empirical evaluation that are being employed in other parts of the educational system. Curriculum evaluation is regularly recommended by teacher educators as a desirable activity for their students to undertake when they become teachers in schools. It has not until recently, however, been seriously considered as a serviceable means of resolving some of the issues within teacher education itself. There are signs that now, rather belatedly, its potentialities are becoming recognised. A number of studies have been reported in which established practices are being submitted to this form of scrutiny (Stepitova (1963), Pesek (1967)) and others in which reforms in teacher education are being introduced and provision made for their continuous evaluation

(Cartwright (1961), Cuban (1964), Allen (1966), Drazek (1966), Hazard (1966)). Various members of the conference were also able to report that studies of this kind are currently being conducted or contemplated in several different countries.

Tyler and Okumu (1965) have provided an excellent outline of the way in which curriculum evaluation might, with advantage, be applied to teacher education courses. It involves those concerned, of course, in a good deal of disciplined thought as well as in the drudgery of collecting the array of data required in this kind of exercise. The first step in the process is to formulate the objectives of teacher education in operational terms — that is, to specify the behavioural changes and modifications of attitude that the course is intended to bring about. The next task is to identify and to organise the set of experiences to which students need to be exposed if the declared aims are to be fulfilled. Finally it is necessary to seek evidence concerning the extent to which the total operation has been successful.

It will be recognised that these two suggested lines of inquiry are not independent. In effect curriculum evaluation calls for the establishment of a rationale for teacher education and then furnishes a means of determining the extent to which this has proved to be serviceable. Ideally these two forms of investigation should coalesce to form a model for fundamental research in teacher education. By developing tentative theories to guide the organisation of courses and using the techniques of curriculum evaluation to determine their effectiveness, and thus to provide feed-back information, we should be applying scientific method, in its classical form, to the study of the problems with which we are concerned. And most of the specific suggestions for study and research that we have already put forward in this report and of those that we shall recommend in later sections could be accommodated within this overall design.

3. METHODS OF TEACHER EDUCATION

Although it is necessary in organising conferences to make arbitrary divisions within the total area of subject-matter to be discussed it soon becomes apparent that in some instances the proposed boundaries are unduly restrictive. This is certainly the case in attempting to distinguish between, on the one hand, the content of teacher education courses and, on the other, the methods of teaching employed in communicating this content to students. These are two aspects of what is virtually a single organic entity and in discussing them, therefore, a certain amount of cross-reference is inevitable.

For example, the recommendations for study and research with which we concluded the previous section clearly embrace methods as well as content. To try to envisage the elements of a teacher education course within a comprehensive conceptual system and to evaluate its effectiveness must embrace the ways in which the course is conducted as well as its substantive composition.

In this section, therefore, we are dealing with problems that are closely related to those we have just been discussing.

We shall consider first of all the problems associated with the choice of appropriate teaching techniques. We are referring here of course to the techniques employed by the teacher educators themselves and not to those that they may recommend for use by their students in schools.

We shall then consider the special role of educational research in relation to teacher education : examining both the ways in which students might become acquainted with its scope and limitations and instructed in its methods ; and speculating on its possible employment as a teaching device.

We shall then examine the kinds of practical experience, including periods of supervised teaching within schools, that are afforded to students, and the problems to which these current arrangements give rise.

Finally we shall discuss the problems associated with examining and assessing the students' progress during the course and their standards of achievement at the end of it.

3.1 Techniques of Teaching

The choice of teaching methods in an institution for the education of intending teachers is a much more complex issue than it is in other educational establishments. In the latter the only significant consideration is the extent to which the methods adopted provide an adequate means of transmitting knowledge. In devising an educational programme for intending teachers, however, there is a second,

and perhaps equally important purpose to be served. Not only must the chosen methods prove to be serviceable in equipping the students with a prescribed body of knowledge ; but they must also be regarded as possible exemplars or models that the students may be disposed to imitate subsequently when they become teachers themselves. Unlike the majority of other students, intending teachers, when they attend a class or lecture, are just as much interested in the form of teaching displayed as in its substance. Being committed to the profession of teaching, they are naturally disposed to pay attention to any demonstration of the art that they are preparing themselves to practise. Thus teacher educators must expect to find their own methods of instruction submitted to close scrutiny and may find them being adopted by their students.

The evidence we have reviewed indicates that there is both a considerable diversity of methods used in teacher education institutions and substantial disagreement about which of these are likely to prove most appropriate and effective. Our impression is that in judging the adequacy of the methods that are employed the two criteria we have identified are commonly confused. Certain methods are strongly advocated, principally, it would seem, because they are or are expected to be effective in acquainting students with the concepts and principles that constitute the theoretical parts of their course. Other methods are often represented as preferable alternatives but, when the arguments of their proponents are examined, it is often found that they are not in effect claiming superior effectiveness on their behalf, but are championing them rather on the plausible grounds that because these methods are the ones most likely to be found serviceable in schools, intending teachers should become familiar with them during the course of their training.

It would seem to us, therefore, to be necessary in discussing the choice of appropriate methods for use in teacher education to define specifically the objectives that each is intended to serve. It may well be for example that, even within a particular segment of the course, the same methods will not necessarily be found equally effective for all the purposes that are envisaged. We stress this point because, clearly, some of the disagreements that are commonly manifested in discussions of this topic stem from the erroneous assumption that there is one kind of approach that is likely to be uniformly superior with respect to every aspect of the course.

We turn now to consider some of the recent and current research in this field.

Some investigations have been made into the relative effectiveness of various orthodox teaching procedures. These have stemmed, rather belatedly, from comparable studies carried out mainly in schools. For some time a considerable amount of research interest has centred around the variety of instructional methods that is available for use in the classroom. It is only recently, however, that systematic attempts

have been made to inquire into their counterparts in teacher education institutions.

The major issue that has been examined with respect to orthodox or traditional forms of teaching is that involving the rival claims of lecture methods as against those involving group discussion (Hartley and Cameron (1967), Holmes (1967), McKeachie (1967), McLeish (1968)).

The results that have emerged from these studies are comparable in many respects with those yielded by the investigations made into methods of teaching used in schools. No clear-cut, unequivocal superiority can be claimed on behalf of one method rather than another. The trend of the evidence, however, would seem to favour certain tentative conclusions. Lecture methods appear to provide the most convenient, economical and effective way of transmitting a body of knowledge. When our major concern is to ensure that students become acquainted with what is known within a given field, a well-constructed lecture can be more useful than either discussion or the frequently suggested alternative of directing the students to source materials and text books and requiring them to study the area for themselves.

The superiority of the lecture to methods involving discussion (we are assuming of course that the lecture is competently prepared and delivered by someone who has achieved adequate mastery over his subject-matter) is to be found in the control that it exercises over the way in which the material is presented to the students. If it is required to demonstrate that certain facts are related, they may be juxtaposed in the exposition that is provided. If certain conclusions become obvious when the relevant concepts and principles are considered in a particular sequence, the lecturer may ensure that this sequence is followed.

In relying on discussion as a teaching device, on the other hand, there is a danger of allowing erroneous conclusions to be formed and irrelevant associations to be made. Furthermore there is a risk that some of this faulty learning may not only pass undetected but may be inadvertently reinforced.

For other purposes, however, discussion group methods have been found to be advantageous. They may enable students to develop concepts and to understand principles more effectively than it is possible for them to do whilst they listening to an orderly exposition. In the latter circumstances there is little or no opportunity to pause in order to dwell on some point that may be imperfectly understood. In discussion students have an opportunity to test for themselves the extent to which, for example, they have established a particular concept, by bringing forward a number of exemplars and having these confirmed as being apposite or otherwise. In this way their knowledge can become both more firmly grounded and also more personally satisfying in that, in a sense, they have acquired it by their own efforts.

Another apparent superiority that may be claimed on behalf of discussion methods is that, whereas a well-constructed lecture may effectively communicate the content of a particular subject area, a procedure within which it is possible for the students actively to participate would appear to be desirable if they are to become sufficiently familiar with the modes of inquiry that are distinctive of the subject concerned. It is rarely possible to illustrate these adequately by lecture methods. If students are to develop appropriate problem-solving skills and form an adequate understanding and appreciation of the processes of thought and investigation that have led to the conclusions that are embodied in the lectures they hear, they must be afforded some opportunity to try out these processes for themselves.

This foreshadows another conclusion for which the research we are reviewing has provided a certain amount of evidence. This is that, for some purposes at any rate, a combination of lecture methods and subsequent, related discussion is preferable to either of these approaches employed independently. The risks that we have noted as being inherent in the discussion group method are minimised if the discussion is related to an orderly exposition. Similarly the limitations of the lecture method can be relaxed if the students concerned are able to follow up, question and investigate for themselves the information that has been conveyed to them by this means.

Researchers in this field have also begun to pay attention to the potentialities of some of the new media and methods of instruction that have been developed in recent years. Investigations have been carried out into the use, within teacher education institutions of films, television, and other audio-visual aids, and of the various forms of programmed instruction that are now being devised and advocated Turnbull (1963), Beckner (1965), Rose (1966), Stones (1966).

Reverting to our earlier discussion it is not altogether clear whether, in some establishments, these new procedures have been introduced primarily as a means of improving the effectiveness of the instruction that is concerned with the students' progress and achievements within the course itself, or in order to demonstrate to them the methods that are currently being introduced into the schools.

With reference to the former criteria, the evidence available so far is of a kind with which those involved in educational research are all too familiar. Some studies indicate that the new approaches are marginally superior to the old ; others show that the old are marginally superior to the new ; the majority, however, report no significant differences between them.

As a means of serving the second purpose — that of acquainting students with the existence of a wide range of teaching methods — these innovations may well be justifiable. A case can be made out for reflecting within a teacher education institution the conditions that obtain within the schools and under which the students will eventually

pursue their professional activities. If they are to be surrounded with gadgets and aids and involved in, for example, team teaching arrangements, it is at least arguable that they should be provided with some experience of living and learning in these circumstances during their preparatory course. We shall discuss these possibilities further in a later part of this section, when we come to consider the place of educational research in teacher education institutions.

Another field of research that has recently been developed in relation to teaching methods is concerned with the kind and extent of student participation in this process (Davis and Bowers (1964), Forst and Mathews (1964), Hanks (1964), Stones (1969)).

Not only have the size and composition of student groups been studied, but various ways in which students might be involved in determining the content of the courses they follow and the ways in which they might most effectively acquire the knowledge and skills that they need.

This is a manifestly important area of investigation, especially at a time when, in most countries, students in higher educational establishments of all kinds are demanding a greater share in the government and administration of the institutions to which they belong.

Some evidence has been produced by these studies which suggests that there may well be advantages to be derived from adopting, for some purposes, student-centred and student-guided discussions as opposed to those that are predominantly influenced by members of staff. Although, again, the results that have emerged cannot be described as positive or significant, these investigations serve to remind us of a number of considerations that need to be taken into account in choosing and operating methods of teaching.

The first of these we have already mentioned, but it perhaps deserves re-emphasis and some elaboration. It is that courses of teacher education are, or ought to be, designed to satisfy a number of different objectives. We have explicitly referred to differences in terms of the kinds of knowledge and skill that need to be communicated. It is important, too, to remember that there are certain non-cognitive objectives that the course should seek to attain. Not only is it necessary for intending teachers to be equipped with relevant knowledge of the subject-matter that they are themselves to teach and of the contents of those disciplines that have a bearing on their professional activities but it is equally vital that they are given the opportunity to develop as persons. The courses they undergo should assist them to grow in self-confidence and maturity of judgment and towards the development of well-integrated personalities.

Our major recommendation under this heading, therefore, is the one that we adumbrated above: that within the framework of the theoretical and evaluative studies that we outlined in the previous section methods of teaching should be examined and their effectiveness assessed, not with reference to a single, global criterion as has often

been the case in the published researches we have consulted, but rather in the light of the multiplicity of objectives that can be identified as the aims of teacher education.

3.2 The Role of Educational Research

It is widely accepted that intending teachers need to be made acquainted with the principles, methods and results of educational research. That educational research should feature in the content of any programme of teacher education is not therefore the point at issue here. We are concerned rather with the methods that may be used to foster understanding of the aims and techniques of research and, further with the possibility that, in a sense, these techniques might be used as an instructional device.

Investigations into methods of teaching in schools have yielded a certain amount of evidence in support of the effectiveness of "discovery" methods and, particularly, of "guided discovery" (Bruner (1961), Ausubel (1968)). What we are here proposing is that the possibilities of using the methods of guided discovery in teacher education ought to be examined. And the ways in which we suggest that this might be tried could serve two purposes: that of enabling students to assimilate the facts, concepts and principles of which their course is comprised; and that of acquainting the students with the principles and methods of research.

The kind of experimental situation that we envisage would involve establishing a working partnership between staff and students, aimed at making a joint exploration of a variety of teaching methods. The staff would take the students into their confidence, so to speak, and instead of adopting particular methods of teaching would point to the indisputable fact that there is little firm evidence to guide us in making a rational choice among the variety of methods available. They would then propose that a number of methods should be tried — perhaps even employing several in dealing with the same area of subject-matter — and that the students should participate in trying to evaluate their relative effectiveness, using their own observed progress, degree of sustained interest, and levels of achievement as criteria. In this way the students would be learning self-consciously, as it were, and noting the extent to which a particular approach appeared to be helpful.

Such a joint experiment, providing regular feed-back information on the value of different methods, would not only afford insights to the teacher educators into the viability of different approaches but would at the same time be giving the students a pupil's-eye view of different teaching techniques. Instead of hearing lectures about and seeing demonstrations of the use of films and television or of programmed learning, they would undergo the experience of being instructed themselves by these various means. Similarly they could be given some of their instruction en masse, other parts of it could be organised in small

groups or through individual assignments. Team teaching, too, could be employed by groups of staff so that the students could report again on their reactions as recipients of this kind of provision.

The sessions devoted to the discussion and evaluation of these experiments could presumably provide a much more effective means of introducing students to the possibilities and limitations of research and to the necessity for adequate design and control than could formal lectures or seminars on these subjects. (Some similar approaches to the problem of teaching research methods to students in teacher education institutions have been outlined in Yates (1970 (b)).

We believe, too, that an experimental situation of the kind proposed here could have more far-reaching effects than those we have already envisaged. We have noted a tendency for teacher educators to accept somewhat uncritically the various innovations in curricula that are nowadays frequently advocated by subject-experts and to transmit these to students in their courses. There is a similar tendency for some of them to instruct their students in the use of a wide variety of new methods, even though in many instances these methods have not as yet undergone any systematic evaluation. Those who control the new education industry are skilful propagandists and not averse to making untested claims on behalf of the educational value of their latest gadgets and packages. We would appear to be on the verge of a breakthrough, if their publicity material is to be believed, which will shortly usher in an educational millennium.

To introduce a note of cautious scepticism into this triumphant chorus might prove to be timely and serviceable in the long term both to teachers and to the pupils for whose progress they are responsible. It is not in the public interest that the educational system should become a vast and ready market for whatever succession of expensive novelties the education industry sees fit to produce. It must surely be the function of teacher education to enable those who enter the schools to adopt a fully professional attitude towards the choice of curricula and teaching methods — and this involves basing the choice not on the claims of their sponsors but rather on sound educational principles and adequate empirical evidence. If teacher education institutions were to approach the choice and organisation of their own teaching methods in the ways we are recommending, the outcome could well be that the new generation of teachers would offer some healthy sales resistance to those who attempt to market teaching aids and devices that are less than fully attested.

3.3. Organising Practical Experiences

It is generally recognised that an important part of any programme of teacher education is the provision of opportunities for the students to undergo practical experience of teaching. Indeed many of the students themselves regard this as the single most important element

in their training. On the other hand, there is evidence of considerable and widespread dissatisfaction with the arrangements commonly made for this purpose. (Charlton (1960), Sarason (1962), Andrews (1964), Taylor (1969)).

Although there is considerable diversity, both between and within countries, in the ways in which practical experiences are organised there are certain problems which would appear to be so general and persistent as to call for study and investigation.

One of these, until relatively recently, appeared to be inherent in the situation and virtually insoluble. It is normally considered desirable that a student should have an opportunity to observe experienced teachers at work and also to have his own initial efforts supervised and appraised by someone qualified to judge their effectiveness. There are two major difficulties that are encountered in trying to satisfy these requirements. The first is that the intrusion into a normal teaching situation of a third party — the student himself appearing as observer in the classroom, or his supervisor being present during one of his own practice teaching periods — introduces a degree of artificiality. The normal situation, for which the student is being prepared ceases to be normal as soon as these necessary arrangements for observation are made.

The second of these difficulties stems from the ephemeral nature of any specific encounter between a teacher and his pupils. When a student and his supervisor come to discuss a particular lesson they find themselves not only dealing with a situation that is past and cannot be recalled, but one which has been perceived from two vantage points. When a tutor and student discuss a piece of academic work that the latter has submitted for assessment, they are able to examine and review it at their leisure and they are both able to focus their attention on the same piece of evidence. This is not the case when a student's teaching experience is being considered. Not only do they have to rely on their recollections of what took place, but their initial perceptions are inevitably markedly different. Whilst the supervisor was able to observe the student's behaviour, the latter was inevitably concentrating on the task in hand and the reactions of his pupils. For evidence concerning his demeanour, tone of voice and mannerisms, he has to rely on his supervisor's reports. He has no means of verifying their accuracy for himself.

There is a growing body of evidence to indicate that this problem may be largely solved by the appropriate use of the various technological aids that are becoming available. A good deal of research has been carried out in this field (Keller (1961), Rensch (1961), Chabe (1962), McNeil (1962), Briggs (1964), Price (1964), Woodward (1964), Coltham (1966), Visek 1966)).

These and other studies have examined and evaluated the use of film, closed-circuit television, and video-tape recordings and similar

devices in relation to the supervision of students' practical experiences.

The difficulty, to which we referred above, involved in disturbing a normal teaching situation by the introduction of an observer may well be solved by the use of closed-circuit television. (One may assume that the intrusion of a camera is less disturbing than the appearance of a human visitor). Some studies have shown that students gain as much from observing a lesson in this way as they do from being present in the classroom. This arrangement also has the added advantage of allowing a student and his tutor to observe the lesson together and to discuss points of interest as they arise.

The other difficulty to which we have alluded may also be surmounted by the use of recording devices. A filmed lesson or one recorded on video-tape is preserved and made available for repeated subsequent inspection. Furthermore such a recording enables the student to witness his own performance and therefore to submit his own efforts to relatively detached criticism as well as making it possible for him to appreciate more clearly the assessments offered by his supervisors.

We would recommend therefore that the use and potential value of the various devices for recording students' practical experiences should be carefully examined.

A problem of a somewhat more fundamental nature concerns the kind of supervision that should be envisaged for a student during the course of his practical experiences and the ways in which this supervision may be best organised. It is commonly reported by those who observe students during the initial stages of their practice teaching that their behaviour is compounded of three distinct elements.

The first of these would appear to be associated with the student's recollections of his own school days. He is inclined, consciously or otherwise, to model his behaviour on one or more of his former teachers. It is not surprising that this should be so. When a person commits himself to teaching as a profession — and many intending teachers make their choice of career at a relatively early age — it is inevitable that he should observe or try to remember the ways in which his own teachers behaved in the classroom. These are the prime models for the beginner and one regularly finds students adopting tones of voice, mannerisms and modes of approach that are manifestly imitations of those exhibited by the men and women who once taught them.

A second powerful influence that soon becomes apparent is that of the teachers with whom he comes into contact in the schools where his practical experiences are gained. Some of them may be designated as his mentors, in that he is expected to observe their methods of teaching and follow their advice. But even those with whom he has more informal contacts make an impression on the student who is

searching for a professional image and trying to identify a role that is consonant with his capacities.

The third and often the least apparent influence, is attributable to the instruction and advice he has received in his course of teacher education. Some cynical observers suggest that this influence virtually ceases to operate once the student becomes a qualified teacher. Whilst we should like to think that this is an exaggerated and unduly pessimistic view, there can be little doubt that our present arrangements for the supervision of practical experiences fail to maximise the impact that teacher educators make on the subsequent professional behaviour of their students.

That this merits identification as a serious problem depends on the argument that, particularly during a period of rapid change in curricula, techniques of teaching and forms of school organisation, an essentially conservative type of teacher preparation is likely to be inappropriate. If intending teachers are, in effect, to be trained by practising teachers there is little likelihood that they will become adequately equipped, either in terms of skills or attitudes, to meet the demands for adaptability and reorientation that inevitably await them.

It would seem essential, therefore, that if progress is to be made new entrants to the teaching profession must be armed with an array of professional skills, and must have sufficient confidence in their use and value to enable them to withstand whatever criticisms they may encounter from those of their colleagues whose own earlier training, background and experience makes them resistant to change, even when this is manifestly tantamount to reform.

The solution to this problem, we suggest, may well be found in the extent to which students are able to undergo adequately supervised practical experiences before they encounter the full rigours of practice teaching. To send a student into a school after a brief, largely theoretical introductory course is perhaps to invite him to turn to other sources of help and influence in an attempt to establish a *modus vivendi* in the classroom. This arrangement is analogous, perhaps, to giving a learner driver his first lesson in the middle of heavy city traffic. It is often considered advisable to allow him to become familiar with the management of his vehicle before exposing him to such hazards.

By the same token it would seem to be desirable that a student should be given some familiarity with, and confidence in the use of whatever methods are deemed desirable in situations that are less demanding than those he will encounter in the workaday life of a school. Various approaches along the lines we are approaching have been studied (Allen and Gross (1965), Caspari and Egglestone (1965), Hannam et al. (1967), Cope (1969)).

Some of these studies are concerned with ways in which practical experiences may be gained before a student ventures into full-scale teaching. The use of micro-teaching methods are, for example, being investigated at the Stanford School of Education in California and elsewhere. These afford the opportunity, under close supervision and with facilities for video-tape recording, to teach short lessons to small groups of children. Other approaches involving work with small groups and individual children are also being explored. Finally methods are being tried of modifying the somewhat stringent demands of practice teaching in schools by arranging for students to be grouped together in a school and to be much more closely supervised. The presence of other students and that of a supervisor from the teacher education establishment might serve to bolster confidence and make the students concerned more disposed to try out methods that, in other circumstances, they might be too diffident to attempt.

We would recommend, in this regard, that these and other ways should be studied and evaluated, with a view to discovering how students' practical experiences might be so organised and supervised as to ensure that their course of teacher education has a considerable and lasting effect on their subsequent professional behaviour.

Finally we would turn briefly to the problems involved in evaluating practical experiences, both in order to assess the progress made by students during their course and to determine their qualifications at the end of it. A number of studies have been undertaken in this area (Wilks (1962), Wilkinson (1963), Shipman (1966), Menaker and Fuller (1967), Maddox (1968), Poppleton (1968), Ljung and Neslund (1970, Nr. 14 and 15)) which, for the most part, analyse and emphasise the difficulties involved in assessing teaching competence.

These investigations reveal a clearly established need for the development of more sophisticated forms of assessment, based on rationally structured systems of observation. One of the most promising developments in this direction involves a close analysis of the interactions that take place in the classroom between the teacher and the pupils (Flanders (1962), Amidon (1966)). Although we would recommend the extension of investigations involving the development and application of observational schedules, we would also suggest that the ultimate solution to this problem — and indeed to many others that have been identified in this report — must depend on fundamental research designed to contribute towards the establishment of a serviceable theory of teaching. We shall refer again to this prior need in the final section.

3.4 Examinations and Assessments

We now consider the problems of assessment in the wider context of the teacher education course as a whole. Although considerable changes are reported in the methods of examining that are being

adopted in teacher education institutions there would seem to have been relatively few studies (e.g. Newe (1965), Gerth (1966), Cappel (1968)) which report any systematic attempt to explore the validity of the procedures that are currently used.

Of the possible forms of assessment — formal examinations of the traditional kind, objective tests used at intervals or massed towards the end of the course, and forms of continuous and cumulative assessment based on the work accomplished by the students throughout the course — each has its advocates, who are able to adduce arguments to support their case. The problem of choosing among these various possibilities involves considerations similar to those discussed in relation to the choice of teaching methods. The modes of assessment adopted in teacher education establishments may be regarded as serving two distinct purposes. The first is to afford a reliable measure of the students' progress and achievements. The second is to expose the students to the methods of examining and testing that they may be involved in administering when they come to serve as teachers in schools.

We would again suggest that a consciously experimental approach might, with advantage, be adopted. They could be invited, for example, to submit themselves to various forms of assessment, primarily in order that they might discuss their experiences with their tutors in terms of the effects that a particular procedure appeared to have on their motivation and study habits, and also so that they might develop an estimate of its value as a means of appraising their progress or diagnosing the deficiencies in their knowledge or capabilities. It would be feasible, for example, to submit the same, or strictly comparable parts of the course to more than one form of assessment, so that all concerned would have the opportunity to draw comparisons between them.

This suggested procedure might serve to familiarise students more completely with the available forms of assessment that they might be called upon to employ as teachers and to afford them deeper insights into their relative merits than could be provided by lectures or discussions. It might also provide the staff themselves with some information concerning the acceptability and reliability of various means of appraising the progress and achievements of their students. It is unlikely, however, to provide an adequate answer to the problem of choosing the most valid methods of determining the extent to which the objectives of the course have been fulfilled.

For this purpose we must depend on the procedures of curriculum evaluation that we have discussed earlier in this report. When the objectives of the course have been satisfactorily defined in operational terms the kind of assessment required to determine the extent to which they have been attained will become readily identifiable. This, as we have seen, calls for specifying the behavioural and attitudinal changes that particular parts of the course are intended to

promote. The nature of these changes and the kind of situation within which they may be expected to manifest themselves will indicate the forms of assessment that will be most appropriate for their evaluation.

4. ORGANISATION AND CONDUCT OF RESEARCH INTO TEACHER EDUCATION

In this final section of the report we offer some general criticisms of the researches that have so far been undertaken in the field of teacher education and put forward suggestions concerning ways in which the defects we have noted might be remedied.

We then discuss what seems to us to be a major need that must be satisfied if future research is to be productive.

Finally we repeat, in summary form, the proposals for study and research that we have made during the course of the report.

4.1 Some General Criticisms

It is a matter of common observation that little firm evidence on which to base the policies and practices of teacher education has so far been made available, and that the yield in this respect is disproportionate to the volume of relevant research that has been undertaken.

The outcome of study and research in this area has been disappointing, we believe, because the vast majority of the investigations that have been carried out have been defective in the following respects. Research into teacher education tends to be piecemeal, in the sense that it consists of unrelated inquiries concerned with isolated aspects of the total process.

Most of the investigations have also been limited in scale, in that they have often been carried out in relation to a single institution and, sometimes, have been confined to a relatively small proportion of the students within it. They tend, too, to be short-term studies. Not infrequently, for example, judgments concerning the effectiveness of some curricular revision or modification in teaching methods has been made within a period that may well have been too short to allow their influence to operate adequately.

They have also, for the most part, been planned as once for all investigations, and not as the initial stage in a persistent series of inquiries.

They also betray, in many instances, deficiencies in design other than those that stem from the limitations we have just listed. This is partly because nearly all researches in the field of education have adopted the *ex post facto* approach and have only rarely involved controlled experimentation.

Many of the defects that we have noted are attributable to the fact that until comparatively recently educational research generally, and research into teacher education in particular, has relied on private enterprise. If one inquires into the origins of most of the investigations

that constitute the "literature" of educational research, it becomes apparent that, for the most part, they have been planned and conducted by individuals or small groups, and that their prime motivating influence has been the need to improve the academic qualifications and career prospects of those involved. This observation is not intended as a denigration of those whose researches have been prompted and sustained by this kind of incentive. In most countries research has become recognised as a path to preferment. Furthermore, we know that human behaviour tends to be determined by a complex of motives: an individual may be intent upon acquiring a higher degree and at the same time impelled by a strong desire to extend the frontiers of knowledge in his chosen field.

Our observation is intended rather as an objective explanation of the situation we have described: it is largely because research into teacher education has been left to individual initiative that it has tended to be of a piecemeal, small-scale, short-term character. Clearly, if the problems we have identified during the course of this report are to be adequately investigated, an organised, systematic approach is called for. The need is for a planned and integrated programme of studies, free of the limitations that have so far restricted the range of research activities. If an individual is compelled to plan his research within the framework of the regulations that govern the award of higher degrees or, even if his objective is to contribute papers to learned journals as a means of enhancing his reputation, he must inevitably reduce the scope of his investigation to manageable proportions. Considerations of cost will confine his attention to small samples; the need to produce results in a relatively short time rules out the possibility of any extensive follow-up studies; and the understandable desire, in these circumstances, to represent his work as being distinctive and original, often leads him to isolate topics for research that are of marginal relevance to contemporary practical or theoretical requirements.

The answer would seem to be to entrust the planning and direction of research into teacher education either to existing organisations or to new ones established for the purpose. Given this kind of provision it would be possible to envisage research in this field as an on-going process that would not only supplement the activities of independent investigations but might serve to incorporate and coordinate them within a broader and more coherent framework.

We have already noted a further justification for involving national or regional organisations in this kind of research. We referred earlier to the fact that investigations in this field are often poorly designed. Many of them are carried out by teacher educators themselves who are knowledgeable and concerned about the issues involved but often lack the technical expertise that is needed to fashion a research that will lead to adequately interpretable results. We are not suggesting that they should be supplanted by those who are better trained in these respects. There would be complementary disadvantages in any

arrangement which allowed professional researchers, with little or no direct experience of teacher education, to take over this responsibility. This could lead to irrelevancies in the choice of topics for study and investigation. Nor is this a practicable proposition in that a good deal of the kind of research we have envisaged in this report — the introduction and evaluation of new curricula and teaching methods for example — must involve the direct participation of teacher educators themselves.

We are recommending rather that there should be an organisation for the planning and conduct of research which allows for full cooperation between teacher educators and professional researchers. As an illustration of the kind of possibility we envisage we would refer to a project, as yet in its formative stages, that is being undertaken in the U.K. This had its origin in discussions between the National Foundation for Educational Research and the Association of Teachers in Colleges and Departments of Education. What has been proposed is a series of curriculum evaluation studies which will involve groups of teacher education institutions in a number of areas. Within each area concerned the local University Institute of Education will be responsible for the planning and coordination of the research, and the National Foundation will provide assistance in terms of research design and instrumentation. Thus the investigations will be carried out at institutional level by the teacher educators but they will be cooperating not only with their colleagues in other neighbouring institutions but also with those at the University Institute who will be able to advise on matters of design and interpretation. Furthermore the overall influence on the project that the National Foundation will exercise will ensure that sampling considerations are given their due regard and that there is therefore a sufficient diversity of practices involved in the total study to allow effective comparisons to be made.

We should like finally to add a comment on the need for and possibilities of experiment in teacher education as distinct from the more prevalent kind of study that involves the examination of existing practices — usually in retrospect.

There is a deeply rooted objection to experimentation in educational research on the grounds that it is improper to interfere with the lives of teachers and students to satisfy the intellectual curiosity of those who are pursuing the study of educational phenomena. It is permissible, and indeed desirable, to examine the practices that are followed in schools and other educational institutions but not, it is argued, to interfere with them in the interests of research. This is a manifestly justifiable case in many respects. A thoroughly permissive situation in which experiments could be indiscriminately introduced might lead to the adoption of procedures that were found to inflict positive harm on those involved. On the other hand, since we have so little firm evidence concerning the desirability and effectiveness of the policies and practices we now adopt in teacher education, it would seem feasible to allow such experiments as teacher educators themselves

are able to approve. One can see little valid objection, for example, to the mounting of an experiment involving a novel method of teaching if the suggested innovation is made by a responsible teacher educator whose knowledge and experience persuade him to believe that it has potential value and to be convinced that it will produce no ill effects.

The objectives of research are of course much more adequately served if an experimental approach can be adopted. Research after the event poses largely insoluble problems of design and interpretation, in that there are often unidentified variables that may well be affecting the outcome that is being studied. In an experimental situation it is theoretically possible, if not always practicable, to secure effective control over these extraneous variables, and therefore to obtain firmer evidence concerning whatever relationship has been selected for examination.

There are distinct possibilities for research of the experimental kind in teacher education, especially if institutions can be persuaded to cooperate with each other in this respect. One group of designs that are likely to be serviceable for this purpose are the time series designs, and particularly perhaps the multiple time series design (Campbell and Stanley 1963). This would require a group of institutions to agree on the application of a regular series of assessments during the course of which a new "treatment" (a curricular revision or change in teaching methods) would be introduced into some institutions but not into others. This has been rated by Campbell and Stanley as perhaps the best of the feasible designs for research in educational institutions where repeated measurements are available — a condition which is, or can easily be satisfied in teacher education establishments.

4.2 A Major Need

The percipient reader will doubtless have recognised that throughout our discussions so far we have begged one significant question. It is one thing to call for the evaluation of curricula and methods in teacher education; it is another entirely to identify a satisfactory method of carrying out this procedure.

The major defect in the research that has been attempted so far — and therefore a major need if this kind of research is to be more serviceable in the future — is that an effective means of assessing a teacher's competence has not yet been devised. Looking back at most of the proposals for study and research that we have put forward in this report, it is clear that a crucial requirement is some measure that will serve as a criterion against which to judge the adequacy of whatever aspect of teacher education is under review. And for the most part, the obvious criterion is that of professional competence.

From past experience we are at least able to identify the approaches to avoid in trying to establish a satisfactory means of measuring a teacher's effectiveness. We know, for example, that the use of ratings has not been satisfactory. The ratings themselves are commonly unreliable and there is an additional problem involved in determining by whom the ratings should be made. Ratings by school principals, inspectors, advisers, teacher educators, other teachers, and students tend to show marked differences, even if some internal consistency is achieved (which is rarely the case), because presumably each of these groups is in effect applying its own distinctive criterion.

In some researches the attempt has been made to remedy the shortcomings of subjective assessments by using conventional measures of the pupils' progress and attainments as a more objective index of their teacher's competence. There are two objections to this procedure. The first is that it is, in practice, formidably difficult to design a research that will allow the effects of a teacher's behaviour on his pupils' attainments to be isolated from all the other influences that contribute to this outcome. The second is that, even if this technical problem could be overcome, the assumption that teaching competence can be evaluated solely in terms of pupils' scores in tests or examinations involves, many would argue, far too narrow a conception of a teacher's role and responsibilities.

Another deficiency that has been noted in many past researches is the failure to differentiate amongst kinds of teaching and types of teacher. Is it feasible, for example, that the same measure of teaching competence could be employed with equal validity when we are considering teaching infants to read, helping twelve-year-olds to solve quadratic equations, or introducing sixteen-year-olds to the principles of literary criticism?

This brings us, perhaps not to the solution of this problem, but to a clearer realisation of the lines along which a solution must be sought. Psychologists long ago abandoned as fruitless, and indeed meaningless, their former search for a theory of learning. They have come to recognise that there must be a number of theories of learning each adequately accounting for the variety of different activities that may be subsumed under this heading. In the remote future, when a range of such theories have been formulated, some psychological Einstein may well perceive some unitary meta-theory within which they might all be accommodated. It is unreasonable however to attempt to reach that stage of development in one prodigious leap.

By the same token, our major immediate need is for an array of theories of teaching. By processes of rigorous conceptual analysis we must try to achieve a taxonomy of teaching situations, then try to identify the variables that enter into these situations, and finally to hypothesise the relationships that obtain among the variables. Thus it is study and research of a fundamental kind, starting from and regularly returning to a theoretical base that is the hope for the

future. We have exploited the predominantly empirical approach to this kind of research and found the results meagre and unsatisfying. Clearly we must now accept that if we are to discover an adequate way of measuring competence in teaching we must first discover what the activity of teaching basically involves.

4.3 Summary of Recommendations

We now append, in summary form, the suggestions we have put forward in this report for future study and research.

4.31 Organisation of teacher education (Section 1)

We recommend :

- (1) A study of the consequences of different degrees of participation by the Universities in the process of teacher education on the quality, morale and effectiveness of teacher educators :
on the recruitment of students ;
on the content of courses ;
and on the number, types, and effectiveness of the teachers qualified under different sets of circumstances.

There is sufficient diversity of practices between countries in this regard to facilitate controlled comparative studies of the kind used by I.E.A. (Husén, 1967).

- (2) An investigation into the viability of extending the scope of teacher education courses so as to cater for the needs of a variety of students preparing to enter other related professions.
This could involve :
 - (a) a detailed analysis of the courses now provided for these various professions with a view to discovering the extent to which they are correlated.
 - (b) empirical studies of any existing arrangements of this kind or of such experimental arrangements as might be introduced.
- (3) A comparative study of different degrees of integration between the courses offered to candidates for primary and secondary school teaching, and in particular, an examination of their effects on the subsequent degree of mutual understanding and cooperation between primary and secondary school teachers on the pattern of recruitment ; and on morale and professional unity.
- (4) A study of the effects of different forms of internal organisation in teacher education institutions. What is proposed here is a close analysis, employing the techniques of sociology and social psychology, of the ways in which institutions are governed and administered, and an examination of the effects of differences in these respects on content of courses, methods of teaching and on the social and personal development of the students involved.

- (5) A comparative study of consecutive and concurrent patterns of teacher education. This should involve an examination of the effects of each of these patterns on recruitment, the motivation and attitudes of intending teachers, their interest and levels of attainment in academic subjects, and their practical competence.

We also propose, in association with this specific inquiry, a somewhat wider and more fundamental study of the factors affecting the choice of teaching as a career, including the age at which a firm commitment to teaching tends to manifest itself.

- (6) Surveys designed to furnish the basic data that must be assembled if a viable policy of in-service teacher education is to be formulated. We need information concerning the age, sex, status and qualifications of those who are now attending in-service courses; the kind of provision that is being made; and the methods that are being employed. Given this background knowledge, it should then be possible to undertake some form of evaluation.

A study is also needed, in this regard, of the motivation of those who offer themselves for in-service courses and of the corresponding incentives to which they are likely to respond.

- (7) An analysis of the functions and responsibilities of teacher educators with a view to determining the qualifications that are appropriate for this purpose.

In particular the relative advantages and disadvantages of teaching experience as a required qualification need to be closely examined and we suggest an experimental investigation into the effects of fore-shortened induction courses as compared with the normal forms of practical experience.

4.32 Curriculum and content (Section 2)

We recommend :

- (8) A study of the extent to which it is necessary, possible and desirable for there to be a degree of specialisation in the academic courses provided for intending primary school teachers. Various experimental courses need to be devised and evaluated.
- (9) An analysis of the aims and content of subjects at the secondary school level, with a view to discerning the kinds of background knowledge and understanding that a teacher requires. This should be followed by consultations with the University faculties concerned and the introduction of such modifications as appear to be required. The effects of any new courses that result from these processes would need to be assessed.

Another related investigation concerning the academic courses offered to intending secondary school teachers that we suggest should be undertaken would involve the experimental introduc-

tion of a variety of courses designed to combat the present trend in some countries towards excessive specialisation. The subsequent influence of teachers prepared in these ways on the life and work of the schools should be examined.

- (10) A comprehensive review of the contribution that each of the basic disciplines or foundation subjects can be expected to make to the preparation of teachers, with a view to establishing priorities and making appropriate selections among and within them.
- (11) An attempt, by applying processes of rigorous critical analysis, to associate the various components of teacher education within an articulated conceptual system.

The ultimate objective of this fundamental approach would be to establish theories of teaching and hence of teacher education. In the short term it could provide a number of guiding principles for the development of logically coherent courses.

- (12) The application to teacher education of these methods of empirical curriculum evaluation that are being employed in other parts of the educational system. This would involve the formulation of the aims of teacher education in operational terms, the identification of those experiences that contribute to the fulfilment of the defined objectives, and the collection of evidence concerning the extent to which the total exercise has been successful.

Ideally the approaches outlined in (11) and (12) above should coalesce to form a model for fundamental research in teacher education.

4.33 Methods of teacher education (Section 3)

We recommend :

- (13) The approaches proposed in (11) and (12) above, applied also to the study of the effectiveness of different methods of teaching. In this regard it would be necessary to define objectives specifically : this could conceivably point to the need for a variety of methods even within a given subject area.
- (14) An examination of the use of methods of guided discovery both in order to acquaint students with the facts, concepts and principles of which their course is comprised and also to familiarise them with the aims and methods of educational research.
- (15) An appraisal of the value of various technological devices for recording teaching situations, both as a substitute for periods of observation and also as a means of enabling a student to study his own performance.
- (16) A study of ways in which students' practical experiences might be organised and supervised in situations other than those

afforded by normal classes in schools. We suggest, in particular, an exploration of micro-teaching techniques for this purpose.

- (17) A study of alternative methods for evaluating teaching competence, by the use, for example of the observational schedules developed by Flanders (1962).
- (18) An experimental approach to the problems of examinations and assessments in teacher education courses, by means of which students would be enabled both to experience and to evaluate for themselves the variety of techniques that are available for this purpose.

4.34 Organisation and conduct of research (Section 4)

We recommend :

- (19) The organisation of research into teacher education as a cooperative venture between teacher educators and professional research organisations.
- (20) The use, wherever possible, of experimental as distinct from ex post facto methods of inquiry, and in particular the time-series or multiple time series designs as illustrated by Campbell and Stanley (1963).
- (21) The fundamental study of the process of teaching, with a view to identifying the variables that enter into teaching situations of different kinds, and the relationships that obtain among these variables. Such a study could lead to the development of more adequate methods of assessing competence in teaching which we have identified as the major prerequisite for fruitful research in this field.

APPENDICES

The following documents were prepared as reference material for the Expert Committee on Teacher Education which met in Paris in December 1967. They are reproduced here, with the permission of UNESCO, Paris, and the authors concerned, because of their obvious relevance to the theme of this report.

CURRENT TRENDS AND PROBLEMS IN TEACHER EDUCATION

JIRÍ KOTÁSEK

The author's central thesis is that what is currently understood by education of primary and secondary school teachers constitutes a **whole**; that the institutional and the programme aspects should be considered as **one** problem; and that a **global approach** is necessary in order to overcome the present "dualism" of institutions and programmes.

The first chapter outlines the importance of teacher education and situates it within socio-economic and cultural developments. Chapter II examines the objectives of teacher education in the light of certain educational theories which determine to some extent, explicitly or implicitly, the organization, programmes and methods of teacher education. Chapter III attempts a classification of typical systems of teacher education, past and present, and points out evolutionary trends, such as the institutional aspects of teacher education in relation to current changes in the school system. The analysis is focused on the preparation of primary school teachers, which is considered to be constantly evolving, and on the relationship between teacher education and the university, where considerable developments are expected. Chapter IV deals with programmes of teacher education in relation to the objectives (analysed in Chapter II) and to types of teacher education institutions. Chapter V reviews research problems raised by teacher education and examines the place of research in institutions for teacher education.

A list of topics for discussion has been suggested at the end of each of the five chapters; this list is not restrictive. It indicates the opinion expressed in this document that a number of issues in teacher education are open questions requiring further study.

THE PLACE OF TEACHER EDUCATION IN SOCIAL AND EDUCATIONAL DEVELOPMENT

A. The problem of teacher education and its importance

As a result of the rapid and profound changes taking place in the world, education and consequently teacher education, has become a field in which old traditions must be overcome and new solutions sought. It has been stated frequently at conferences of administrators and educators¹ and in authoritative publications², that this situation cannot be adequately dealt with through mere administrative deliberations, simple analyses and experiments, since teacher education represents a complex of social circumstances and theoretical issues.

Teacher education in its present form has been influenced by certain social and educational factors which have not yet been fully defined. Apart from being a practical problem, teacher education is also a theoretical problem, the general structure of which will have to be clarified. The mere description of different systems of teacher education cannot provide an adequate basis for useful theoretical investigations on an international scale.

1. The key rôle of teacher education in the promotion and the continuation of organized education

It is important, first, to identify the nature of the problem of teacher education and its place in the theory and practice of education as a whole. Teacher education is an activity in which education and school are regenerated. Although the necessity and continuity of education are furthered by the growth of knowledge and the development of society and culture, teacher education may be regarded as one of the prerequisites for the promotion and continuation of organized education as a whole. Furthermore, the proper preparation of teachers contributes to more purposeful and better planned education. The practical and theoretical problems of all fields of education are centered in teacher education. Consequently the system of teacher education determines to a great extent the character of an educational system.

¹ Conference of Ministers of Education and Ministers responsible for Economic Planning of Member States in Asia, Bangkok, 22-29 November 1965 - in Arab States, Tripoli, 14 April 1966, p. 18 - in countries of Latin America and the Caribbean, Buenos Aires, 26-28 June 1966, p. 16 - Unesco, Paris.

² Bereday, G.Z and Lauwerys, J.A. ed. "The Education and Training of Teachers" in *The Yearbook of Education* : 1963. London.

It might seem, at first, that teacher education would benefit from this singular position. In actual fact, however, it has not received the attention it deserves ; its special position has, on the contrary, given rise to difficulties. While preparation for other professions is influenced to a significant extent by sectors of life outside the school system, such as industry, economy, medicine, law, culture and scientific research, teacher education is more or less confined within a given educational system, with all its inertia and reluctance towards change. It could well be argued that teacher education should take the lead in the development of an educational system and that it should be given priority in the social and educational measures to be taken by States. However, the history of education shows that in practice teacher education has hitherto been dealt with only in an **ex post facto** manner. Even though we do not presume that this approach could be radically changed, we consider teacher education as one of the key areas for future reform in all educational institutions. Educational objectives and means cannot be changed until the education of teachers has been changed. However, in spite of the importance we attach to teacher education, we do not pretend that it is the only factor that can change or influence the form of organized education in the modern world.

The practical importance of teacher education is, perhaps, even greater in the developing countries where, from both the qualitative and quantitative aspects, the establishment of an optimal system of teacher education is the **sine qua non** of educational, social and economic development. In these countries the primary problem is to give an initial impetus to teacher education, while in the industrially developed countries it is a question of keeping pace with current developments in other fields. It is impossible to decide in which part of the world practical solutions are more difficult to achieve. A lack of economic and other means hinders progress just as much as fixed traditions and conservative public opinion. We believe, however, that the problems in both developing and developed countries have, essentially, a common theoretical basis. (See section 1. B following).

A comparative approach will enable us to incorporate isolated national experiences and efforts into an international framework, to determine fundamental trends and factors and to project future development.

2. The concept and scope of teacher education

We may define teacher education as such institutionalized educational procedures that are aimed at the purposeful organized preparation or further education of teachers who are engaged, directly or indirectly, in educational activity as their life work. This concept of teacher education does not exclude members of other professions who prepare for teaching as a secondary, supplementary activity. An understanding of the scope of this concept is particularly important for anticipated progress in the developed and developing coun-

tries which will involve a larger rôle for planned educational activity within the industrial, economic and administrative spheres of life.

The above definition conforms to the Recommendation concerning the Status of Teachers³ which applies to "all teachers in both public and private schools up to the completion of the secondary stage of education, whether nursery, kindergarten, primary, intermediate, or secondary, including those providing technical, vocational, or art education." However, the central field of concern is with the preparation of teachers for primary, intermediate and secondary general schools, since these schools involve the largest group of teachers, and consequently their education has a decisive influence on all other levels of education. The work of institutions concerned with the education of these teachers has a bearing on the preparation of teachers for kindergarten, vocational and special schools, and even of school administrators.

3. The global approach to teacher education

It is a relatively new idea, from the historical viewpoint, that the preparation of teachers for both primary and secondary schools should be considered as a **single** theoretical and practical problem. This approach takes into account the fact that teachers in secondary schools do not represent solely university scholarship and specialized scientific disciplines, but, like primary school teachers, they have a social function and responsibility toward the personal development and guidance of pupils. Although this approach does not prevail in all countries, we consider it fundamental to the definition stated above and to a thorough analysis of the problems of teacher education. Briefly, we consider teacher education to comprise all forms or stages of preparation of those who intend to devote themselves to the teaching profession.

Teacher education also includes the study of academic disciplines which are seemingly not directly related to professional preparation. We wish to understand and designate the preparation of teachers as **professional education**. The adjective "professional" is not used in this connexion to indicate only one component of teacher education, but rather the quality and the status of the whole preparation. The second part of the expression "education" on the other hand, is intended to indicate the personal development, i.e. general culture of the prospective teacher. The goal of the professional **education** of teachers is the formation of an educated and cultured person concerned with education. It is not merely a question of professional **training** in the technical sense of the word, which can be appended in any way and at any time to one's general education. Teacher education should have a professional status similar to that of the

³ Adopted by the Special Intergovernmental Conference on the Status of Teachers meeting in Paris on 5 October 1966.

education of doctors, lawyers, industrial and agricultural engineers, economists, etc. However a general comparison reveals that teacher education has not yet attained a stage of development equal to the preparation for these professions.

In the field of teacher education an unbalanced state of affairs still prevails in the majority of countries. Reference is made here to such problems as the organization and the structural relation of various types of teacher education, including curriculum, the effectiveness of teacher preparation and its adaptation to rapid social changes and scientific progress. It can be said that teacher education is one of the least crystallized parts of the educational system, a part which is far from having found its firm place in the complicated structure of modern society. For these reasons the field of teacher education deserves the intensive and constant attention of educational experts.

B. Major factors influencing teacher education

Teacher education, like the field of education in general, is a complex area conditioned by historical, social and geographical developments. The major factors influencing it are classified below, from the more general to the more specific.

1. Socio-economic factors

It is most important to examine teacher education in relation to the general state of a society, namely the character of production forces, the nature and structure of labour and social classes, political forms and conditions, and the place of man in civilization. It has been proved that a system of teacher education undergoes reform particularly during those historical periods in which social development reaches a turning point. It is not merely a question of temporal coincidence, but of direct cause and effect. For example, in a period of development of manufacturing, when schools were to prepare pupils for employment in production and enable them to adapt to new methods of work and to changes in the political system - the first institutions providing systematic training for teachers (e.g., the monitorial system schools in the United Kingdom and the old preparatory courses in Austria in the early Nineteenth century) considered it their task to prepare teachers for a system of teaching initiating a series of manual processes following upon each other.

Other historical connexions between the state of a society and teacher education could also be mentioned. Let it suffice to state that contemporary economic, social and political developments, designated the "scientific and technical revolution", undoubtedly represent a turning point which has confronted teacher education with entirely new tasks, both in industrially developed countries and in those just commencing economic and independent political development in these new world conditions.

2. The concept of culture and of general education

The dynamic socio-economic factors operate parallel to the more conservative factors of culture and general education. The rapid growth of knowledge in the natural and social sciences, the appearance of mass culture and leisure, the endeavours to democratize education, and man's new place in the modern world, are doing away with earlier notions of the educational needs for adult life. Within the framework of these circumstances literacy must be recognized as indispensable, not merely as an economic-political factor, but one also of cultural, philosophic and anthropological importance.

The objectives, content, organization and methods of teacher education are directly determined by these factors. If we raise the question of the present meaning of education in our world or in one particular country, we contribute at the same time to the formulation of suitable objectives and processes for teacher education. The increased importance of general education has left its mark particularly on teacher education, probably to a greater extent than on the professional training for other occupations.

It has become essential at the present time, to devote special study to teacher preparation in relation to general education, because the adaptation of education to new social and cultural conditions is now a matter of great urgency. His professional training apart, the teacher must maintain, for his own personal development, a certain intellectual level and a contact with scientific and cultural developments. The importance of these qualities is particularly great if we do not consider education merely an impersonal process for the transmission of knowledge, but rather an encounter and dialogue between human beings and if we attribute the success of education to individual factors in inter-human relations.

3. The educational system and its organization

The third group of factors is more obvious, and is consciously taken into account in the course of educational and political discussions. The organization of the educational system, the types of schools that exist and their relationship determine the internal organization of teacher education and even their objectives and educational content. The degree of integration of an educational system also conditions the integration of teacher education and vice versa.

A further problem in this connexion is the determination of the place occupied by teacher training institutions within the school system. The most important question is whether teacher education is part of secondary or higher education, its relation to universities and its dependence on central or local school authorities. There can be no doubt whatsoever that the place of teacher education in an educational system represents the basis of its "ideology" in aims, content and methods and the moving force behind its development.

4. The development of the teaching profession

A factor of equal importance to educational organization is the development of the teaching profession. The impact of this factor on teacher education is twofold : (a) teacher education develops in close connexion with the social organization of teachers, with the aims they pursue in changing social conditions, the character of their relations with other professions, and with the rôle played by the teacher in society ; (b) teacher education cannot be separated from teaching activities, from their organization and specialization, and from their related services.

The study of the professional context of teacher education is gaining in importance, particularly at the present time when professional autonomy is growing and when organized teachers try to exercise their influence on institutions of teacher education and to participate in "decision-making" in educational matters.

5. Educational theory

If we consider as one of the most important features of a civilization the degree to which science is applied in production, economy and the administration of society, then the question arises to what extent science is applied in the sphere of education. The control of educational processes through the application of scientific knowledge remains a problem ; teacher education represents an important aspect of this problem, as evidenced in the historical development of institutions of teacher education. The development of educational theory, resulting from the growing contact of pedagogy with other scientific disciplines, must form the basis for modern development of the aims, content and structure of teacher education. However, a satisfactory answer has not yet been found to the cardinal question of the relation of science to the "art" of teaching. Mention must also be made in this connexion of the development of educational technology, namely modern teaching aids which influence considerably the teacher's work in school.

Some of the above mentioned factors concern directly certain problems and tendencies which are relatively independent and develop autonomously. We firmly believe, however, that only a global consideration of **all factors** will lead to more precise and relatively more profound knowledge and theories on teacher education. All the practical problems of teacher education are to some extent influenced by these factors which are interrelated and mutually dependent. The importance of the approach described in this section is not only theoretical but has a practical consequence for endeavours in all countries to improve teacher education. In the modern age, progress in the field of teacher education can be attained only through systematic analysis and active reform of the conditions of teacher education in all the above mentioned contexts.

Suggested topics for discussion - Chapter I

1. What measures have been suggested to adapt teacher education to the changing needs of the school system ?
2. What evidence is there for giving teacher education priority in educational reform ?
3. What factors would seem to indicate the unity of the teaching function in primary and secondary education ?
4. How does teacher education compare with preparation for other professions ? What are the similarities and differences ?
5. Are there major factors influencing teacher education other than those listed under section 1 B ?
6. Are the problems raised in this chapter relevant both to industrialized and developing countries ?

OBJECTIVES OF TEACHER EDUCATION IN THE LIGHT OF EDUCATIONAL PHILOSOPHIES

The concrete features and processes of teacher education, and the various types of teacher preparation in different countries and regions of the world, can be analysed as we have just seen, in several contexts which are **external approaches** to teacher education. However, it is necessary to raise the fundamental question of the objectives of teacher education.

Quite inadequate in this case, however, are the formal replies which are so often repeated in discussions and official documents, such as "a profoundly educated and professionally well-prepared teacher", "a teacher on a level with contemporary science", "a teacher devoted to social ideas", "a scholar-teacher", etc. Behind vague formulations are certain basic theories which create and condition the existing organizational structure, curriculum content and methods of teacher training. Although these theories originated in certain historical circumstances, it is possible to treat them systematically and in logical order. Very often they are not formulated explicitly, but represent extreme, limited situations which need not necessarily manifest themselves in a "pure" form.

The objectives of teacher education are closely related to schools of philosophy and pedagogy, to the basic theories of the nature of education, and to the notion of the "ideal" teacher. The following analysis of these objectives will concentrate on three key problems :

- A. the nature of knowledge and its transmission through teaching ;
- B. the nature of the teaching process and
- C. the teacher's responsibility in education.

A. The nature of knowledge and the problem of its transmission through teaching.

1. Teaching as a spontaneous (non-professional) activity

The logical and also the historical, starting point of an analysis of the objectives of teacher education is the idea that those who have acquired knowledge need no particular skill to transmit it. Underlying this idea is the assumption that knowledge originates in the course of a dialogue between communicating individuals, hence the conscious transmission of this knowledge does not represent a special problem. This theory prevailed particularly in ancient philosophies, but is still accepted in our times.

It follows from this argument that those who know, automatically have a capacity to teach others successfully. Teaching, therefore, is a spontaneous activity open to anybody who knows and is willing to share his knowledge with others. Training in various kinds of skills and activities, including general as well as specialized knowledge, is, according to this theory, the **only** possible way of preparing teachers.

How has this theory of teacher education been applied in practice ? Its origin and actual sphere of application are in the universities. Until recently - and possibly even today - instruction and educational research have been treated as a whole. It is significant that the advocates of the unity of research and instruction are the main opponents of a pedagogical approach in university work. This theory has also penetrated down into the lower grade schools, and principally to the secondary schools, thus contributing to the concept of the latter as schools deriving their justification from universities. The tendency has been to apply this theory in contemporary secondary schools even when it is a question of teachers whose qualifications should include a higher level of general secondary education, equivalent to, for example, the General Certificate of Education, the baccalauréat, the Abitur, etc. It is equally applied in cases of highly educated specialists from other professions who teach in secondary schools for technical, economic or agricultural education. This theory has less influence in those countries in which a secondary school is not a selective academic institution, but forms an integral part of an educational system open to nearly all young people.

In the past decades a strict application of this theory has proved impossible. Increasing knowledge and specialization have made it necessary to consider introducing general scientific principles in the early years of school. There are other arguments now raised against this theory and based on a better understanding of the learning process, for example : "Discovering how to make something comprehensible to the young is only a continuation of making something comprehensible to oneself..."⁴ According to this proposition, what matters in the development of knowledge is not merely a new discovery and the co-operation of many scientific branches but also the effective communication of ideas, and an understanding of the methods and systems of knowledge. Thus, it is neither pedagogical and psychological arguments, nor a change in the social importance of school, nor the development of the teaching profession that will deal the main blow to this theory but rather an evolution **within** science itself that will invalidate it. However, the theory that teacher education has no specific objective distinctive from that of education in general, must continue to be taken into account because it always finds

⁴ J.S. Bruner, "Towards a theory of instruction", Harvard University Press, Cambridge, Mass. 1966, p. 38.

supporters. The persistence of this theory is perhaps due to the difficulty of providing **objective proof** of the effectiveness of pedagogically orientated preparation in comparison with traditional university education.

As far as teachers at primary schools are concerned, the theory under review was applied only in the earliest phase of the historical development of these schools, until special preparation institutions were established. This stage was reached in the European countries when a certain degree of literacy was considered sufficient qualification for the teaching profession. Today, this theory has no serious support even in those countries which are just beginning to concern themselves with teacher education.

2. The theory of bi-polarity

The extension of compulsory primary education and later the increasing democratization of secondary education, created in the industrial countries a rather numerous, but heterogeneous group of teachers who endeavoured to understand the nature of their work. This development affected the theory that teacher education has nothing that would distinguish it from general education. However, the intellectual basis of the new theory was founded on the works of certain modern pedagogues. It drew, in particular, from the theory of didactics (J. A. Comenius), the theory of natural education (J.J. Rousseau), and the theory of the teaching process (J.F. Herbart), which asserted that teaching is the transmission of knowledge, that it has certain pedagogical rules with which the teacher should concern himself, and that education should not limit a child's natural development. These ideas found full application only towards the end of the Nineteenth century when empirical and experimental study of the child and education, of psychological and pedagogical measurement, and progressive pedagogy spread among teachers. This approach made a radical distinction between subject-centered and child-centered education.

It was at that time that the theory of the bi-polarity of the objectives of teacher education originated which now rules in most countries and types of teacher education. Teacher education is only **partly specific**, being only a modification of the education afforded at a general secondary school or at an institution of higher education. This modification is usually considered as an adjunct to general education in many or several subjects with the knowledge and skills directly related to teaching. This adjunct generally has a **pedagogical**, or, in a somewhat wider sense, **professional** character. The preparation of teachers is thus composed of general and specialized education, the two rather loosely connected.

In the light of the bi-polar theory the objectives of teacher education are determined by the two components. An almost inevitable competition has arisen between the representatives of the two components -

the promoteurs of academic subjects and those defending pedagogical subjects - to secure priority and class time for their disciplines in the preparation of teachers.

The bi-polar theory of teacher education sometimes leads to a harmful dualism of the objectives and thus of the content of teacher education. In this concept, the relation of the two basic components of teacher education becomes a simplified relation of **content** or subject-matter preparation and **formal methodological preparation** : the first instructs the teacher in **what** he teaches his pupils and the second in **how** he should teach them. Thus this dual concept actually separates the components of teacher education. Consequently teacher behaviour is only a mosaic-like pattern of heterogeneous acts and not a synthetic activity in which elements of content and method are inseparably united.

Efforts to overcome dualism face stiff obstacles, both in the case of the training of primary school teachers at the secondary school level (i.e. the necessity of linking general education with professional preparation), and in the case of the university education of secondary school teachers (i.e. the necessity of treating subject courses as courses in academic disciplines). It is possible to prevent a bi-polar objective from becoming a dual objective in teacher education, if the historical and now unjustified view of the pedagogical component as a mere appendix is overridden ; if both components are **co-ordinated** to complement each other ; and if they are given **equal importance** in the process of teacher education.

The bi-polar theory has influenced the view as to what the relation should be between the subject matter and professional (pedagogical) components in the curriculum of teacher education for various levels and types of schools : the higher the school level, the greater the importance accorded to subject preparation, and, on the contrary, the lower the school level, the greater the importance given to pedagogical preparation. Although this view reflects the contemporary situation in all countries, opposition has been raised to it on the basis of the following arguments : that in the education of secondary school teachers, there is an increased need to understand the psychological and pedagogical problems of puberty and adolescence and of the social adaptation of youth in modern communities ; and that in the education of primary school teachers, there is a need to ensure a higher standard of theoretical knowledge in order to modernize the primary school curriculum.

3. The professionalization of teacher education

While the bi-polar concept of teacher education, including its extreme dual form, is being subjected to the influence of scientific knowledge in child psychology and education, and of certain child-centred pedagogical movements, the theory of professionalized teacher education is evolving. Historically this theory had its roots relatively early in the

special schools for teachers, founded as an essential part of a mass education system. Its present evolution is due to the growth of numerous teachers' groups anxious to attain equal status with other professional groups (e.g., physicians, lawyers, economists, etc.) Also influential in the development of this theory are the special university level institutions for teacher preparation.

According to this theory, all teaching activities are specific to the profession, like the work of other professions. Consequently, teacher preparation as a whole and in all its elements, should be directed towards specific professional objectives. More strongly than other theories, it aims at balancing the difference between the various types of teacher education and thus at unification of the teaching profession. This could be achieved if teacher preparation were to take place only in institutions of a post-secondary type. As long as a certain part of teacher education is attached to the secondary school system, (e.g. the *écoles normales*), the professionalization of teacher education hinders the programme of general education at general secondary schools and at *écoles normales*.

One of the implications of this theory of teacher education is that subject courses, in which all elements are related to teaching methods, should also follow professional aims. Similarly, if teaching methods are taught independently, then special "functional aims" are imposed on subject courses to orient them toward future use in school.

The concept of specific teacher education has a certain influence on teacher training institutions. In the period between the two World Wars it was applied in certain institutions of teacher education which were, however, gradually directed towards bi-polarity (e.g. the German Pedagogical Academies, which emphasized the difference between the preparation of elementary school teachers and education of a purely scientific nature ; the former Teacher Colleges in the U.S.A. with their predominant emphasis on professional study). During that period, however, educational reform movements and the sciences concerned with educational research concentrated on the problem of methods and techniques. The theory of professionalized teacher education has been stimulated by the efforts toward curriculum reform and modernization of the content of education, and by the development of programmed instruction, which seeks to combine the aspects of subject matter and methodology.

The theories of teacher education discussed above cannot be isolated from fundamental philosophical and pedagogical considerations on the nature of education, teaching and the teacher personality. If organized school education is mainly considered an instrument for the transmission of culture to the social élite, teacher education will be directed towards non-professional objectives and to extreme subject-centred teaching. On the other hand, efforts to democratize the educational system strengthen a form of teacher education that is purposefully directed towards professionalization.

Our analysis of the objectives of teacher education from the viewpoint of the nature of knowledge and its transmission through teaching, would not be complete if we did not consider them in relation to attempts to devise a typology of teacher personalities. A useful classification has been made which divides teacher personalities into the **logotropic** type and the **paidotropic type**⁵ according to whether a teacher is more concerned, both personally and in the performance of his work, with the subject matter he teaches (logos) or with the child (pais). The theories of teacher education mentioned above, incline either toward logotropism or paidotropism, or, in an endeavour to achieve a compromise, toward a combination of both. However, teacher education should in no case deliberately incline towards one or the other pole as regards its objective, content and methods. It is only through an appropriate combination of teacher personalities that the fulfilment of the diverse aims of an educational system can be ensured.

B. The nature of the teaching process

In spite of the considerable institutional diversity of teacher education, which is influenced, as we have indicated, by the variety of objectives there is an increasing tendency in all institutions to acknowledge a certain specific and professional character of teaching. How does a teacher actually behave in the process of teaching? What knowledge and skills, what personal qualities does he need to fulfil his duties? What is the relation between a teacher's preparation and his practical teaching success?

1. Teaching as craftsmanship

Since scientific knowledge of the teaching process was fragmentary until the present time, teaching was considered an activity analogous to that of a craftsman in the pre-industrial period of production. To teach effectively, an individual with a certain degree of general education needs a relatively long period of practical experience, in the course of which he acquires, more or less unconsciously, a methodological approach and habits which he then employs mechanically as his instrument of work. On the basis of practical teaching a kind of system of general rules and principles originates. If an individual is to become a teacher, he must undergo a period of apprenticeship in which, through the **imitation** of more experienced teachers, he gains practical mastery of the art of teaching. Of certain assistance in this procedure are also the rules and principles of the "teaching craft". The highest degree of mastery requires years of practical experience, the results of which accumulate mechanically

⁵ Caselmann, "Die Lehrerpersönlichkeit", In : K. Struz (ed.) : Pädagogische Psychologie für höhere Schulen, Reinhard Verlag, München-Basel 1961, Ch. XIV.

in the teacher's consciousness without modifying to any considerable extent the pedagogical principles originally acquired.

The historical roots of this theory of teacher education as artisan's training go back to the beginning of modern times and to the first attempts to formulate an exhaustive system of didactic rules (e.g. Comenius). At that time it naturally represented progress since it endeavoured to secure more rational mass teaching, as well as to introduce a system of order in school work.

This method of teacher training flourished particularly during the development of primary education in the Nineteenth century. It was adapted to the needs of the latter and to certain new theories of the teaching process (e.g. Herbart). With minor modifications this concept influenced the *école normales* and teacher training colleges, giving rise to special model schools at which the principal part of teacher training took place. The staff of these training schools was chosen from teachers in service who exemplified certain methods in their work. The aim of teacher training was to follow and improve the demonstrated examples of teaching processes which had been proved historically.

This type of teacher preparation was the main source of traditionalism and conservatism in the content and methods of teaching. It was under these circumstances and in this spirit that a large quantity of literature for teachers was published, principally in the form of method handbooks on teaching different subjects; this literature influenced to a considerable extent the intellectual level of the teaching profession, which in turn seriously obstructed educational progress and caused teachers to be underestimated by more educated social groups.

Teacher education in the form of artisan's training became the objective of institutions for the preparation of elementary school teachers. However, for secondary school teachers, it was accepted that a well-educated person did not require any further preparation for the performance of his teaching duties. The contradiction inherent in these two concepts, applied to different levels of the educational system, is one of the causes of the basic institutional cleavage, the consequences of which are still felt today.

In spite of current criticism of this theory, it is necessary to point out its realistic factors. Teaching undeniably involves a certain degree of teaching skill, without which an experienced teacher cannot get along, and which must be deliberately formed in the course of his preparation. Involved here, are, for example, the teacher's conduct, organization of his teaching activities, his ability to hold attention, maintain discipline and assess his pupils. In addition, he must be able to make expedient use of modern teaching aids and also carry out certain administrative tasks. The tendency to underestimate these elements of teacher education is frequently the cause of criticism of teacher education institutions by education authorities. It cannot be

denied that, if a teacher is to consciously control his conduct in view of the main objectives of his teaching activities, he must perform certain tasks mechanically otherwise he will be constantly under stress. This is particularly true in the case of beginning teachers. Another advantage of this concept is the assumption that teaching consists in a number of interrelated teaching skills which form a whole, thus putting the proper emphasis on the unity of teacher education.

Of late attempts have been made to revive the "artisan's training" theory in those cases in which the dualism of subject matter and professional preparation is seen as merely a question of supplementary academic courses with practical instruction in teaching practices in the respective subjects.⁶

2. Teaching as an application of science

The fact that education and teaching have become subjects of scientific research has changed thinking on the nature of teaching. Objective scientific knowledge of educational processes and achievement, and their psychological and sociological conditions, should clarify certain teaching situations. If teaching represents the conscious application of scientific knowledge of education, then the objective of teacher education must be mastery of the scientific principles and understanding of the problems and methods of pedagogical research. Thus teacher education is understood as the preparation of **pedagogical technicians** who apply their knowledge of teaching material, social values, the psychic and social development of children, educational aims, teaching means, and evaluations to concrete situations arising in school, the classroom, the subject, and eventually the individual. This concept of teacher education rejects the teacher's subjective experience as the sole source of principles and rules (i.e. the artisan concept) and takes as its base relations and laws which are scientifically determined and objectively proved. For this reason it stresses the importance of studies in the sciences of education which should precede or accompany practical work. The origin of this concept is naturally connected with the development and progress of experimental pedagogy, and psychology, psychometrics, child and social psychology, and the sociology of education. There is no doubt that these relatively recent developments have made considerable contributions to teacher education and, in some countries, lead to the establishment of new special institutions of higher education for the preparation of teachers.

The above objective of teacher education is justified to the extent that education can be the subject of objective observation and expe-

⁶ Indications of this viewpoint can be seen, for example, in the rather personal conclusions of J.B. Conant "The Education of American Teachers". McGraw-Hill Book Co., New York, 1963.

perimental research in the same measure as research performed in the sphere of the natural sciences. Even if we agree that scientific pedagogical research is positive, the problem arises of the **applicability** of the knowledge thus obtained to concrete pedagogical situations. A note of caution is introduced here, given the often fragmentary and scattered knowledge as well as the predominantly statistical method of acquiring this knowledge. This is due in part to the fact that the educational process is a complexly conditioned human and social process ; and that education takes the form of a personal encounter between the teacher and a child and thus is not an impersonal process, or a kind of technological procedure.

3. Teaching as a personal relationship between educator and pupil

The objections mentioned above are used to substantiate a concept of teacher education which aims at the development of teacher personality. In its extreme form this theory denies the possibility of scientific knowledge of education ; the latter is regarded as governed by factors which cannot be grasped rationally. Teacher education based on this theory relies on the fact that education is most effective when it is performed by an educated teacher personality who regards his profession as a creative activity. A further argument used to support this theory is that between the theoretical knowledge of education and practical work, there exists a certain gap that cannot be bridged, because research is conducted in a different context from teaching practice. While research is analytical and endeavours to ensure control of all factors, the teaching situation in practice is so complex that it is impossible to take all factors into account. The future teacher should therefore learn to judge a situation intuitively, this being more conclusive than knowledge acquired by an objective and external method. The discrepancy between pedagogical theory and educational work is thus resolved in a form of preparation in which, according to this theory, the most important rôle is played by the personality factor. Therefore a teacher must be prepared in a way that teaches him, for example, to control his outer manner of expression and purposefully exploit his conduct for educational purposes.

The theory of teacher education just described is advanced in various circumstances. It is put forward as an argument in favour of **beginning teacher education** at a relatively early age, namely after the completion of lower secondary education (at the age of 14 to 15) in order to have a better possibility of forming a teacher personality with the necessary professional characteristics. On other occasions it serves to emphasize the specific character of teacher education in comparison with other types of higher education or, on the contrary, to refute the importance of pedagogical theory in the content of teacher education.

However, this theory has had no influence on the form of teacher education, but has tended rather to correct blind faith in the possi-

bility of an absolutely objective knowledge of education, and to affirm the rôle of teaching practice in teacher education. It has also contributed to distinguish the preparation of teachers from the preparation of scientific workers in the field of education. It places greater emphasis on the understanding of the aims of education than on the knowledge of their means. In a compromise form it is sometimes formulated as the opinion that the application of scientific knowledge of education is possible only if the teacher, in addition to theoretical knowledge, has a creative and interesting personality and if, as a personality, he is able to influence the interhuman relations which determine education. However, the strongest element in the personality theory of teacher education is undoubtedly the fact that education, more than any other activity (perhaps with the exception of these directive functions which necessitate frequent contact with people and the influencing of social groups), depends on inter-personal relations and the personality factors. This is particularly true since a teacher carries out the decisive part of his profession as an individual.

C. Teacher's responsibility in education

Both the concrete form and the philosophical significance of teacher preparation depend on a definition of the responsibility of the teacher and of the fundamental purpose of the teaching activities which he is called upon to fulfil.

1. The community-centred concept of teacher education

If we consider the purpose of education to be of service to society, economy, the state, culture, science, or even values beyond the world of human experience, we regard the teacher as the performer and representative of the tasks imposed externally on education and the school. Organized school education, and consequently the teaching profession was instituted historically as a service to culture and knowledge, to a tradition of accumulated values, or as an instrument, either for the creation of conditions for economic development or for the realization of political objectives, such as those of a state or social group. In these circumstances education is understood to be part of social forces and moral values, and autonomous importance is not attached to it. The more it is linked with society, culture and values, the better it is adapted to changes within these spheres and the more intensively children and youth integrate with society, adopting the values of their time.

What are the objectives of teacher education in these circumstances? The ethos of the teaching profession lies in identification with and personification of certain values and goals for which a teacher becomes a more or less critical bearer or even instrument. Such teachers instil certain social, political, economic, cultural, scientific,

or religious aims. Even in a pluralistic society with competing and contradictory values and viewpoints, the general aim is determined according to the predominant viewpoints.

The selection and preparation for the teaching profession based on this social concept are often designed to produce a **teacher-public worker** (a community leader) who carries out his duties to young people in school, and also towards adults in the community. This aim had an important influence on the education of teachers, particularly primary school teachers, in countries in which education developed considerably in the Eighteenth and Nineteenth centuries in conjunction with economic progress and the formation of modern states ; it acquired a clearly defined form during the social revolutions, and today accompanies the formation of nation-states and their economies.

A teacher takes part in the social, political and economic activities of his community and this participation influences his work at school. Teacher education is thus focused on the teacher's association in contemporary social activities, enabling him to participate in them, while his actual work is more or less derived from this wider preparation. Teacher education which is influenced by this objective stresses the socio-political disciplines, practical preparation for public work, the ability to transform social aims and ideologies into educational objectives, the knowledge of methods of analysis of social circumstances, and the conditioning of the educational system by the social system. According to this model the ideal teacher and teacher education have naturally changed both historically and geographically. The teacher-cultural missionary of the pre-industrial period of social development has gradually been replaced by the teacher-social expert in the complex structure of industrial society.

A similar approach to the formulation of the objectives of teacher education is applied by advocates from a **religious concept**, particularly if they incline toward the currents which emphasize involvement in social activities. In their opinion teacher education should be directed towards social aims in the light of a unifying idea which should pervade all elements of education.

The social concept of teacher education has its advantages and weaknesses. It is only by its participation in the social context determining school and education that teacher education becomes adequately effective, a fact borne out by historical development. If contemporary society becomes a really "educated society" only the teachers' involvement in social problems will maintain education in the centre of public attention. Education, school, and the teacher can never ignore their dependence on and responsibility to society. However, the subordination of the teacher to social activities and values risks making him a mere impersonal instrument which in the end harms rather than contributes to real education. This may be the case if the teacher is considered as a civil servant whose primary

duty is to conform to instructions of a powerful central administration.

2. The child-centred concept of teacher education

The weaknesses of the social concept form the basis of the child-centred concept. In this view the child and young person, their hidden strength and abilities, their natural intellectual and individual development, should govern the teacher's responsibility and education; this view issues from a naturalistic and negativistic concept of education, the aim of which is merely to repress influences hindering normal development. This viewpoint can be characterized as individualistic - the child, his wishes, and requirements are the decisive factors of education - and subjectivist - education is the development of personal inner forces. The responsibility of the teacher is determined entirely by the needs of the individual child and consequently teacher education is centred on a thorough knowledge of the child, his environment, difficulties and development.

This objective of teacher education was generated by the pedagogical reform movements and progressive education which gave priority to psychology, study of the child and his mental and physical development, mental hygiene, psychological and pedagogical aims, the psychological aspects of school curricula, and the methods of individual teaching. A teacher prepared in this way should be able to modernize education only in the psychologico-methodological sense. Less importance is attached to such factors as : the relations between the educational system and social structure, the dependence of the individual development on social conditions, the necessity of adapting school subjects to scientific and technological progress, the importance for teaching of understanding educational objectives.

3. The human responsibility of the teacher

It would seem that the modern age and the new place of education in the life of man and society, are creating the prerequisites for overcoming both the extreme social (community-centred) and the individualistic (child-centred) concepts. The most important advance has been the general agreement on the right of man to education, embodied in the Universal Declaration of Human Rights (1948). If man can be designated an "animal educandum", it follows that school is the institution that forms man and that education fulfils an anthropogenic function. It is for this reason that a teacher carries out his profession as a **mission**, being neither an instrument of social will nor a servant of children's individual needs. In the performance of his duties the teacher takes the personal and human responsibility for the anthropogenesis of a child. This does not eliminate the dependence of education on the structure of society or its conditioning by individual needs. It does, however, stress the autonomy of the teacher who becomes a teacher expert in educational process.

Teacher education understood in this way prepares teachers to accept personal responsibility for the social education of young people and for the creation of conditions for the development of their individual interests and needs. It also furthers the continuous modernization of teaching methods in a direction corresponding to the child and his world : equal educational opportunity for all and consideration for individual talent. The professional component of teacher preparation seeks a synthesis between philosophical, sociological, and political education, and psychological and methodological preparation ; its other components include education in sciences and arts that is not only a summary of information about the world but also an understanding of the human and historical importance of the advance of scientific knowledge. This concept of teacher education creates the best preconditions for professionalization with due regard for subject matter and pedagogical components and for the education of teacher personalities, who in the course of their work consciously apply scientific principles.

Suggested topics for discussion - Chapter II

1. Are there specific objectives of teacher education which are typical for certain countries or groups of countries ?
2. Are there means to assess the positive effects of teachers with good academic (university level) and professional preparation, in relation to those with traditional university, but without professional preparation ?
3. What are the implications for teacher education of the problems of knowledge communication ?
4. In what ways can the academic and professional preparation of teachers be a means to raise the social status of the teaching profession ?
5. Is the concept of the teacher as a community leader justified in all types of communities ?

THE ORGANIZATION OF TEACHER EDUCATION

At the present time the character of teacher education institutions, their place in the educational system, and also their administration and control, are highly topical and urgent problems in the majority of countries. Currently and in the near future only partial efforts to improve the work of existing institutions can be carried out due to inadequate resources. However, the most progressive tendency to date has been toward the reconstruction of basic institutions and toward new relations among individual teacher education institutions. The reason for this is precisely the fact that only a changed institutional framework can have a considerable influence on the content and methods of teacher education. From the viewpoint of long-term planning, which is being applied to an increasing extent in education, it is necessary to overcome the isolated and unco-ordinated approach to the different types of teacher education.

The central problem of an institutional system of teacher education is the relation between the preparation of teachers for primary and for secondary schools. The present situation in this respect is still marked by the historical dichotomy of the two different institutions which prepare the largest groups of teachers. The contemporary state of affairs - with a few exceptions - can be characterized as one of institutional dualism in various phases of development. Schools for the preparation of secondary school teachers, which until recently were considered to be élite and selective schools, have undergone little change in principle for a long time. As the development of these schools proceeded practically independently of that of other schools, we can, from the institutional point of view, regard them as relatively constant. On the other hand, the education of teachers for primary schools, directly linked with the development of the educational system, has been much more dynamic and with the passing of time, has raised the urgent problem of its relation to the university preparation of secondary school teachers. For this reason it is important, first, to examine the stages of institutional development of the preparation of primary school teachers, particularly from the viewpoint of their relation to the university programme for prospective secondary school teachers.

A. The stages of development of Institutions for primary school teachers

In some countries the education of primary school teachers has gone through many phases, while elsewhere development has proceeded more rapidly and with radical changes. By stages can be understood

also the types of institutions which make up teacher education in different countries. The quality of teacher education in a certain country need not, however, correspond directly to the stage of institutional development attained. The adequacy of a certain institutional solution is determined rather by the socio-economic and educational conditions in a given country. However, we can regard a move up the institutional scale as a certain general advance in the development of teacher education.

1. Post-primary training courses

The oldest type of teacher education is the short-term (several months) entirely practical preparation in teacher training courses directly connected with primary school and sometimes even attached to it. This type characterizes the beginning of educational systems, before the introduction of compulsory school attendance for example, in the majority of industrially developed European countries it existed in the late Eighteenth and early Nineteenth century. Today it is justified perhaps only as an emergency measure in cases in which it is a question of rapidly overcoming illiteracy by preparing teachers able to afford pupils a certain degree of literacy.

More prevalent at this level is, however, that type of preparation which is more firmly incorporated into the educational system than short-term courses, and which introduces **institutionalization** into the education of primary school teachers. Schools of this type accept pupils who have finished their basic education at 11 or 12 years of age ; they offer combined short or complete secondary education and professional training for teaching. Although such schools still exist in some countries (e.g. in some Latin American countries), and there are arguments in their favour, they cannot be regarded as satisfactory and desirable for the future.

More often teacher education is incorporated into the educational system when pupils finish their basic education at the age of 14 or 15 (extended primary school or lower secondary school) and enter schools which provide a relatively short period (1 to 2 years) of training with a professional and entirely practical orientation. Compared with preparatory courses, such schools represent great progress, and in countries just commencing their industrial development they have created a large group of teachers without whom further education, cultural and economic development is impossible. Since, however, they cannot be compared with higher secondary schools as regards the length and standard of the education they afford, they act as a brake in educational systems which are tending towards integration and, in terms of education, are a blind alley for their pupils. Teachers prepared in this way are, it is true, linked with the economy and culture, as well as the life of the people, but they face insurmountable social obstacles. The idea of establishing a relation between the preparation of primary and secondary school teachers, which we con-

sider to be the key to the development of teacher education, has not yet been advanced in this stage of institutional development.

2. Teacher training colleges as a specialized vocational branch of the school system

The inadequacy of the institutions described led to the origin of a more exacting type of preparation at teacher training centres which constituted vocational institutions parallel to higher secondary education. The characteristics of this stage of institutional development are prolongation of the period of attendance at these schools to 3 to 4 years and modification of the curricula. In addition to practical training, professionally orientated subjects are provided, with an artisan type of teaching preparation. The fundamental change lies, however, in the fact that general education subjects are introduced into the curricula. The establishment of such teacher training colleges depends on acceptance of the idea that the level of the prospective teacher's general education must be higher than that attained at basic school. These schools are understood as a certain modification of higher secondary schools in accordance with the needs of preparation for primary school teaching.

This stage of development created very clearly defined types of institutions for teacher education, namely, the Teacher Training College, the *Ecole normale*, the *Lehrerseminar*, the *Lehrerbildungsanstalt*, etc., which frequently exist today and represent a model for the new institutions in developing countries. Their advantage lies in the fact that they have a clear professional purpose and that they admit pupils at an age which enables the schools to form a teacher personality and to influence the participation of that personality in the life of the community. All these features have a specific and firm place in the educational system and social structure. Preparation for teaching at these schools represented, and still can represent, a means of climbing the social ladder for pupils from the lower and lower-middle classes. As long as these social conditions continue to exist, schools of this type will have an ensured supply of relatively very capable individuals (mainly men, in the past) for whom teaching represents a life-long profession enjoying considerable social prestige. This type of institution for the education of primary school teachers has enjoyed a long life in the majority of developed countries ; at the present time it is in a state of crisis.

The gradual changes in social conditions and educational systems have revealed certain deficiencies in this type of institution. The fact that teacher training colleges are on unequal footing with higher secondary schools of the elite branch of the educational system, and that they remain attached to the popular branch, has caused dissatisfaction among teachers from these colleges to whom access to higher education is closed. Furthermore, the combination of general education, on which increasing demands are imposed, and of professional training in a relatively short period of study, is becoming

ever more difficult. Professional training conducted by experienced teachers does not keep pace with the scientific study of education and the child. In some educational systems training colleges maintain their conservative character, thus hindering school reforms.

3. Teacher training colleges with the status of higher secondary schools

One of the possible ways of overcoming these difficulties is to eliminate the difference in level and prestige existing between higher secondary schools and teacher training colleges. At the latter schools it would then be possible to obtain not only a teaching certificate, but also a certificate of complete secondary education (for example, the baccalauréat at French *écoles normales*) which would give access to university education or to another vocation. This institutional solution incorporates the teacher training college into the system of secondary education. A precondition of this development is, however, the balancing of the difference between various types of lower secondary schools. This process could develop to the extent that several courses of different length could be established at teacher training colleges, to correspond with the level attained by a pupil entering from a secondary school. The age for admittance would be raised to 15 or 16.

The growing demands placed on primary school teachers and the need to satisfy the requirements of secondary education and professional preparation, have led some countries to extend the period of study at these schools to 5 or even 6 years (e.g. Holland and Switzerland). Even in cases of a shorter period of study, there is a tendency to require a longer period of study than that in general education secondary schools (e.g. part of the preparation of primary school teachers in the USSR, Yugoslavia and the German Democratic Republic).

Another variant of this type of institution is the 1 to 2 year course for persons who have completed secondary education. These courses are usually only of a professional character (although this need not always be the case), containing some features of the first type mentioned in this chapter, although on a considerably higher level. These courses also run parallel with the complete course of study at teacher training colleges. One of the principal motives behind them is the desire to recruit a larger number of new teachers through a somewhat different scheme.

If the education of primary school teachers is carried out at extended training colleges or by means of courses within the framework of these schools, it reaches the post-secondary level. Both forms can thus be regarded as two alternatives of post-secondary teacher education, which are accompanied by yet a third, namely the university type of teacher education. In comparison with the former, the third type represents a complete break from the older secondary education tradition of teacher training.

For many countries, particularly the developing countries, this stage of institutional development cannot be attained at the present time or in the near future. The reasons for this are, on the one hand, the difficulties involved in building up a new educational system to correspond with population growth and, on the other hand, the permanent lack of teachers. Despite these handicaps and for important reasons, efforts are being made to replace these schools with others on a higher institutional level. The following arguments are particularly important in this respect : owing to the growing demand on the quality of education, to the democratization of educational systems, and to the increasing number of graduates from secondary schools, the preparation of primary school teachers cannot remain on the level which, in its fundamentals, corresponds to educational conditions prevailing in the first half of this century or even during the last century. In addition teachers' associations have voiced their own demands for increased social prestige and professional status, which depend on the standard of their education. Demands are also advanced for the gradual elimination of the dual character of the teaching profession, resulting from the too widely different standards of preparation of primary and secondary school teachers. Last but not least, the unsatisfactory standard of pedagogical preparation hinders the application of scientific principles, and it is on this that the progress of teaching primarily depends. Although the main obstacle to the above reforms is the shortage of teachers, there exists another binding and important counter argument.

In view of the nature of the educational attitude to children between 6 and 10 - 11 years of age, the preparation of primary school teachers demands early professional purpose. The "academization" of their preparation threatens the education of teacher personalities who should rather resemble parents than apply a scientific approach to educational work. In the case of later admittance to teacher education, the teaching profession comes into unequal competition with more attractive professions, and thus the intellectual level of persons interested in teaching becomes lower.

In the lower types of teacher education institutions, and particularly in the one in question, there is a need for specially trained **teacher educators**, notably for the professional components of teacher education. In earlier phases of development the most experienced primary school teachers became the "masters of method". Later, due to the influence of pedagogical research, it became necessary to introduce special study in pedagogical sciences at universities (or advanced teacher training colleges). In countries in which this type of institution will be preserved for a certain time, the preparation of **teacher educators is decisive for the standard of teacher education ; this link between higher education (or the university) and the preparation of primary school teachers, should be purposefully developed since it represents a progressive factor in the development of teacher education.**

4. Types of teacher education on post-secondary level

The increased number of secondary school graduates, the dissatisfaction of teachers with the standard of their education, the relatively low age of entry into an ever more exacting profession, and the abolition of teacher training colleges as a vocational branch of the educational system, have led to the foundation of institutions which are a transitorial type between secondary school and higher education (the so-called "semi-university type" of education of primary school teachers). Pupils are recruited into these schools only (or predominantly) from the ranks of higher secondary school graduates, which accounts for their close relation to universities. However, the length and nature of the course of study (usually 2 years) and the level of the staff make it impossible for them to compete with universities. These schools need not always be institutions in the full sense of the word, but could be incorporated within the framework of higher education.

The origin of this type of institution is very varied. In many cases they have been formed from teacher training colleges, through the admittance of students with a high level of secondary education. Elsewhere emergency training colleges were established at times of acute shortage of teachers. In general, it can be said that many forms of so-called accelerated teacher training exist at this stage of institutional development. In some countries semi-university types of general education already exist and institutes of teacher education, coming into close contact with them influence their development (e.g. the junior colleges in the U.S.A.). In some European countries after the First World War they originated as a specific type of teacher training institution, deliberately planned quite differently from the universities, (e.g., the Pedagogical Academies in Germany).

The stability of this type of institution is relatively low. The opinion prevails, confirmed by post-war developments, that these institutions offer a temporarily limited solution to the pressing need for teachers. The traditional conflict between subject matter and professional preparation manifests itself here once again, this time on a higher level. Consequently there is a tendency to extend the course of study which, however, again raises the problem of the relation of these courses to the university. The institutional dualism of the preparation of primary and secondary school teachers is again evident and this time relatively more urgently. A further source of instability is the fact that semi-university institutions endeavour to acquire a status which would make them independent of central or local school administration and to create conditions for autonomous development.

5. Teacher preparation on the level of higher education

The highest stage of institutional development can be considered the preparation of primary school teachers at the level of higher education. It presumes the existence of institutions to which only graduates

from higher secondary schools are admitted. At such institutions the length of the study is the same or almost the same as that of other university courses (in every case, however, longer than 2 years). They are staffed by teacher-educators with qualifications comparable to those of the staff of other universities and employ university methods of work. They also have the same degree of independence as other university schools. This standard, however, can be attained only gradually and considerable obstacles must be overcome. The number of countries that have already reached this standard, at least in certain places or experimentally, is increasing.

Development in this direction may even lead to the overcoming of dualism. This stage depends particularly on the degree of integration of the educational system, on the level of educational sciences, on an adequate number of highly qualified university-level experts on education, and on the organization and consolidation of the members of the teaching profession. A historical and comparative analysis of the development of teacher education shows that institutional dualism has been overcome only by those countries in which the origin of secondary schools is not connected with the élite concept and in which the teaching profession is not socially divided. In this case the stages of development need not follow the patterns described above, for example, the third level of development practically does not exist. The highest stage of development has, in principle, been reached only by a few countries: the U.S.A., the USSR, Japan and some others.

B. Special problems of teacher preparation for lower secondary schools

For the sake of clarity we have dealt hitherto only with the education of teachers for primary schools⁷. The majority of countries in which there was, historically, a strict differentiation between mass and élite education, combined (either directly or indirectly) lower secondary schools⁸ with primary schools. Before completing compulsory school attendance the majority of children passed through such lower secondary schools, with the exception of those admitted to selective secondary schools⁹. The demands imposed on the preparation of teachers for this type of school have gradually increased, particularly in the case of schools which require that teaching instruction should be given by specialized subject teachers and not by classroom teachers as in the case of primary schools. The increased demands placed on teaching can be seen especially in those countries which, in the interest of the democratization of education, are deliberately integrating mass (non-selective) lower secondary schools with traditional

⁷ Understood to include children from 6-7 to 11-12 years of age.

⁸ For children from 11-12 to 14-15 years of age.

⁹ For children from 11, 12 to 18, 19 years of age.

secondary schools, or are even establishing a comprehensive lower secondary school. This tendency has also had an influence on the development of teacher education.

The first attempt to secure higher standards of teacher education for lower secondary schools was the introduction of special examinations and courses for graduates of teacher training colleges who were already teaching at primary school. This procedure gave rise to a special category of teacher with more profound education in certain subjects. These courses have gradually been institutionalized and today form an important part of the teacher education system in some countries (e.g. Belgium). They are of a semi-university character and the course of study lasts 2 years. If graduates from these schools reach a certain level, they may teach also at the lower or middle grades of selective secondary schools.

The introduction of the comprehensive school system has stimulated the preparation of teachers for this type of school. Even in cases in which the preparation of primary school teachers remains at secondary school level, institutions of a post-secondary level for teachers of lower secondary school are rapidly established. Sometimes this procedure is only a temporary measure, before they are fully incorporated into the system of higher education institutions for secondary school teachers (e.g., the **ucitelskije instituty** in the USSR, the projected development in Poland) ; while in other cases it results in the establishment of a stable institution (e.g., Sweden, Hungary), particularly if it is at the university level. Thus there arises a **tripartite system of teacher education** with special institutions for the preparation of teachers of primary, lower and higher secondary schools, usually having varied periods of study (e.g., in Hungary teacher education on post-secondary level lasts 3, 4 and 5 years for the respective types of school). However, this system comes into conflict with the general tendency towards the institutional integration or even unification of teacher education in a common establishment.

The growing demands placed on the preparation of lower secondary school teachers has also influenced the preparation of primary school teachers, particularly in cases in which the preparation for both levels is considered the concern of a single institution. In some countries in which teacher education is understood in this way, a relatively high standard of institutional development has been attained (e.g., the Colleges of Education in Great Britain, the Pädagogische Hochschulen in the Federal Republic of Germany and the Faculties of Education in Czechoslovakia).

C. Relations between teacher preparation institutions and universities

If the preparation of primary and lower secondary school teachers reaches a post-secondary level, the problem arises of the relation

between teacher education and the university. This problem, which is becoming more frequent in a growing number of countries, either on the level of long-term planning, or of immediate solution, bears witness to the fact that the problem of a teacher education system has been lent a new context.

Three basic concepts can be distinguished which represent, on the one hand, successive phases of development, and on the other hand, organizational models corresponding to national and local conditions. All three concepts are more or less linked with the 4th and 5th stages of institutional development described earlier. (See III-A above).

1. Separation

The first concept is based on the view that teacher education differs fundamentally from the mission of the university as the highest type of school at which it is not merely a question of teaching, but also of scientific knowledge and culture. Teacher education requires extensive practical preparation which, according to this view, is incompatible with the scientific education and research pursued at the university. Other arguments stress that a large number of students from the teaching profession would threaten the high standard of university study; such association is technically impossible within a short period. It is further argued that the theoretical level of pedagogy and related sciences prevailing at universities in some countries, is inadequate.

Therefore, entirely independent schools must be established for teacher education which have no relation to the university. Institutional separation predominated in the case of teacher education institutions of the semi-university type. It has practically no influence on the sharp barrier between the preparation of secondary school teachers and primary school teachers. A clear application of this concept is seen in educational systems based on the élite theory, and in university institutions for the preparation of secondary school teachers in which the pedagogical component is neglected.

However, as teacher education institutions approach university level in regard to scientific standards and length of study, it is not expedient to maintain an insurmountable gap between them¹⁰. In spite of this, the concept of separation applied sometimes even in cases where institutions for the preparation of teachers have attained university level (e.g., the Pädagogische Hochschulen in Nordrhein-Westfalen and Niedersachsen in the Federal Republic of Germany). In such

¹⁰ See, for example, the rapid transformation of Teachers Colleges into multipurpose State Colleges or State Universities in the U.S.A.; Robbins rejection of the view that the Colleges of Education in England and Wales could form an independent network of teacher training schools apart from the universities; the incorporation of teacher education into the universities at Hamburg and Hesse in the Federal Republic of Germany.

cases universities face certain competition, a fact which even causes them alarm.

Under certain specific circumstances teacher education as a whole, i.e. for primary and secondary schools, can be given at special higher education establishments which can be designated as teacher or educational universities. This phase of development has been reached in the USSR, where **pedagogičeskiye instituty** (Pedagogical Institutes) educate the major part of the teaching personnel for schools of all grades and types.

2. Association

As separation often slows the rise in standards of teacher education institutions, and as it is considered correct that the university should, through the mediation of teacher education, influence the standard of education in general, institutional co-operation is **being sought** between the university and teacher education.

A suitable method of co-operation has been found in the form of association, that is teacher education given at independent institutions which have closer or more remote relations with universities. The most thoroughly elaborated models are the Institutes of Education in England and Wales which are university establishments co-ordinating the preparation of teachers of all types of schools at universities (especially in their Departments of Education) and also at Colleges of Education, which are grouped regionally.

Another model of association is the university Faculty of Education which prepares primary and lower secondary school teachers, independently of the preparation of higher secondary school teachers at other historically older faculties (e.g., Czechoslovakia).

There is no doubt that association accelerates the development of teacher education, leads to balancing of the difference between primary and secondary school teachers, and improves the scientific quality of institutions of teacher education. However, even where institutional association exists, the preparation of primary school teachers is not at the same level as the preparation of secondary school teachers.

3. Integration

Finally, teacher education can be incorporated entirely into a university, particularly if the preparation of primary school teachers is considered of equal importance to the preparation of secondary school teachers and acquires the same standard. This concept can be designated institutional integration. The university as a whole (and not only one faculty or department) accepts responsibility for teacher education and even adapts itself to its needs.

The first step towards integration can be to unite the professional training of teachers of all (or at least certain) types of schools in a

single university, or to establish the co-operation of teacher education institutions (e.g., the co-operation of Departments of Education and Institutes at English and Welsh universities and that of Teachers Colleges and universities in Sweden). Elsewhere, the preparation of primary and secondary school teachers is combined in all components of the programme¹¹. Under such circumstances it has been proposed that teacher education acquire the level of graduate study (e.g., the U.S.A.). A similar problem arose concerning the creation of a special degree for teacher training graduates in Great Britain.

D. Preparation of teachers for secondary schools

Our analysis of the institutional development of teacher education has been based on the assumption of an institutional constant, i.e. the preparation of secondary school teachers at universities. However, it is now necessary to revise this assumption. It is obvious from what has already been said that in some countries, from the very beginning of the process of development, the systems of teacher preparation for both types of school have been in close contact. Moreover, in countries with a long-standing university tradition, the preparation of secondary school teachers at universities was not originally (and in many cases still is not) teacher education in the real sense of the word. The mission of a university has nothing in common with the execution of the teaching profession. The élite secondary school derived its aims from the needs of universities; its teachers were considered primarily as experts and scholars in scientific and humanist disciplines, and secondly as teachers. We regard this standpoint — perhaps justified at its time — as the main obstacle to recognition of the university education of secondary school teachers as a constant influence on teacher education. Teacher education, in turn, must have an influence on the university or at least on one of its tasks, i.e. the preparation of prospective secondary school teachers.

The preparation of secondary school teachers at universities has undergone changes in the past decades. This is especially due to the influence of the increasing number of pupils from higher secondary schools, the abandonment of the idea of an élite school, and the growing importance attached to pedagogical work in these schools, so that the professional aim of teacher preparation (or at least part of it), appears indispensable. Within universities, or in close contact with them, institutions have been founded which have professional objectives. These changes are conditioned also by development within the universities. The university is confronted with the task of educating a rapidly increasing number of research workers who find em-

¹¹ Soviet Pedagogical Institutes, which are at university level; see also III-C-1; American universities and colleges - the proposed University in Bremen in the Federal Republic of Germany, etc.

ployment in special research institutions. Different preparation is being elaborated for research workers and teachers, unfortunately often to the detriment of the latter. Thus the integration of university study with the specific objectives of teacher education occurs here also and accelerates the development of a unified, but internally differentiated, teaching profession.

It is obvious that at the present time the teaching profession is creating its own professional educational basis and that the resulting theoretical and research work may gradually change the "picture" of a teacher and the character of education that have existed hitherto.

E. Control and administration of teacher education

1. Authorities and groups exercising control over or influencing teacher education

Teacher education, apart from its relation to various types of schools and to the educational system, is dependent on social authorities, groups or institutions. They share control over teacher education in accordance with historical and social conditions.

At the present time provincial or national government agencies exercise the decisive influence, supply the greater part of funds, make major policy decisions on teacher education and control it. In centralized systems of school administration strict control extends also to the programmes of teacher education. There are often differences between the preparation of primary and secondary school teachers. The preparation of the latter category is in most cases prescribed by the universities. This difference of control (Ministry of Education on one hand, university on the other) is an important feature of the institutional dualism referred to above.

In countries where there is no centralized State control upon educational matters and teacher education, where the universities are fully autonomous institutions, special machinery for general control is created. The machinery works with the help of, or under the influence of, state authorities : it lays down requirements for certification and controls their application.

The general trend of development could be characterized as follows : "Control of teacher education in most countries is now shared by the government and the universities. In general, the former takes the responsibilities for the financing and administrative details, and the universities are responsible for the content, methods of preparation and the conduct of the examinations".¹² This conclusion applies only to those countries in which teacher education is associated with universities.

¹² B. Holmes, "Organization of Teacher Training", in : *The Yearbook of Education*, 1963 : London 1963.

The endeavour to associate teacher education as a whole with the universities is not only a consequence of the latter's central rôle in the progress of science, culture and education, but also by virtue of their autonomy and their possibility to resist the pressures of various social forces. On the other hand the universities, owing to their history and traditional organization, tend to be conservative establishments and sometimes reject the responsibility for preparation of the teaching personnel as a whole. There is no doubt however that a close link between teacher preparation institutions and universities would enhance the professional and social status of teachers.

The control of teacher education may be shared also by regional or local authorities. This situation is typical in countries with a decentralized school administration. The contacts between preparation institutions and local educational authorities are in many ways useful, namely in facilitating conditions for practice teaching ; in giving the institutions a greater possibility to exert influence on schools and general public in their region and, in this way, to gain authority, and sometimes also funds. There is, nevertheless, a trend to reduce the autonomy of local authorities in teacher education and to recognize teacher education as a national rather than a local concern. This corresponds to the following developments : the professionalization of teacher education, the endeavour to obtain status equal to that of other professions, university education of teachers and, last but not least, the necessity of central management of the supply and demand of teachers.

Similarly, the initial importance, in fact monopoly, of churches in the administration and control of teacher education has been reduced, especially during the Nineteenth century. There were in some countries long struggles between Church and State for the control of education including teacher education, particularly that of primary school teachers. At the present time secular control of teacher education is becoming universal.

There are also private organizations which intervene in teacher education. Special national and international foundations have grasped an important rôle in it. Although they do not directly administer institutions of teacher education, they can influence, with the help of research and development projects, the programmes of study and the attitudes of the staff to innovations.

Teachers' unions or professional associations, have gained influence as social forces, and now claim their part in decision-making¹³. Although they do not exercise control upon the institutions of teacher education directly, they try to influence entry into the teaching profession. They work as partners with the central or local educational authorities in determining certification requirements and procedures,

¹³ See Art. 9 and other references in the Recommendation concerning the Status of Teachers (1966).

in some cases also programmes of study. They take part in planning for the further education of teachers. Their important task is to endeavour to unify the teaching profession. Finally a special mention may be made of organizations from teacher education institutions or from their staff which in some countries take part in stimulating the development of teacher education.

2. Selection and certification of teachers

Successful teacher education depends to a great extent on the human qualities of the prospective student teachers selected. The effort to recruit from the upper section of the student population as measured by educational achievements or aptitudes is the first trend in this field. The second aims at admitting pupils with higher secondary school leaving examinations only. The preparation of teachers enters into competition with other professions at the university level. As far as entry into the institutions for primary school teachers is concerned, there is ample evidence that the educational level of applicants is lower than that of those who apply for university admission. The competition for admission to institutions of higher secondary school level is relatively less.

It is desirable to raise the entrance requirements for prospective teachers despite the shortage of teachers. Emergency measures should not jeopardize the longterm trend which is based on continuing social change and on the growing importance of education in an industrial age. Recruitment measures should also take into account these long-term requirements.

The admission of students to teacher education institutions takes place on the basis of certificates of general education and student records from lower schools, or, in addition, on the basis of entrance examinations, sometimes as a competition organized by the institutions themselves. There is a growing tendency to point out the minimal educational prerequisites for admission and at the same time to introduce additional selective procedures. These procedures are based either on examinations and tests used in other types of schools, or they are specifically aimed at discovering personal requirements considered necessary for the teaching profession. Used in these selection procedures are personality tests, interest and attitude inventories, and simulated educational situations. Provided that the standard of knowledge and the level of intelligence are maintained, these specific selective procedures could be useful for the further development of the teaching profession and teacher education institutions.

The first year of study is a critical period from the point of view of selection, as is the student's performance in practice teaching. However, generalized application of selective procedures will only be possible when the shortage of teachers has been overcome and there is evidence of greater interest in a teaching career on the part of students. The selection of students could also become an instrument

for individual guidance of student teachers. In principle, selection should be related to problems of supply and demand of teachers. In industrially developed countries it should be taken into account that the higher educational level of citizens and the mass information media have diminished the attractiveness of the teaching profession even among the lower social classes. Since salary increases during the period of rapid growth of expenditures on education is in most countries not possible, new sources of recruitment for the teaching profession have to be found, (members of other professions, married women of older age, etc.).

Leaving examinations and certification procedures constitute an important feature of teacher education systems. The prevailing opinion is that the leaving examinations, especially university examinations, should provide, at the same time, the teaching certificate. Some countries, in addition to university examination, require a special examination on "teaching readiness", or second teacher's examination, which has to be passed after one or two years before a board of examiners composed of school administrators. The combining of leaving examination with certification does not exclude the opinion that the teacher in his first year, or during the first period of his career, is a beginner who in his practical conduct should be systematically guided by persons or institutions charged with this special task. It is suggested that the educational system should create provisions for facilitating the adaptation of young teachers to conditions of practical work, similar to those which are current in the medical or engineering profession.

As far as examination procedures are concerned, they are divided into special academic, and professional or practical parts, in the sense of the theory of bi-polarity mentioned in the preceding chapter. Some institutions try with great difficulty to combine both approaches in a unified examination. However, this type of examination depends on a planned curricula of concurrent academic and professional courses in teacher education programmes.

Suggested topics for discussion - Chapter III

1. To what extent do the five "stages of development", described in Chapter III A, sum up the development of teacher education in the world ?
2. What are the institutional trends and special problems connected with the preparation of teachers for lower secondary schools ?
3. What are the various forms of relationship between teacher preparation institutions and universities ?

4. What are the requirements for adequate professional preparation of teachers for higher secondary schools ? How should these requirements be met by the university or other teacher preparation institutions ?
5. What is the responsibility of a teacher preparation institution for further education of teachers and what provisions should be made to discharge this responsibility ?
6. What is the rôle of teachers' organizations in the promotion of teacher education ?
7. What selection and certification procedures are likely to raise the professional status of teachers ?

PROGRAMMES OF TEACHER EDUCATION

The basic structure of teacher education programmes is determined by curricula and must be discussed in relation to the analysis of the objectives and organization of teacher education presented in the preceding chapters. However, we propose to abstract to a certain extent, several relatively independent curriculum problems from the context of the preceding discussion.

Contrary to other types of professional training, teacher education cannot be projected from general theoretical bases to more specialized disciplines, similar to the more comprehensive curricula of medical or technical education. Even when efforts are made to create a comprehensive programme, its origin, development, and organization make it a system of elements which can be combined only gradually and which often originate from divergent theoretical sources. Moreover, the relations of elements to the future profession vary.

For this reason each type of teacher education must raise the question of its components and their mutual relation. It seems that efforts are increasing to form an organic, internally co-ordinated whole. The components of teacher education cannot, however, be strictly classified, because each one of them fulfils a different function in relation to the teaching profession. There are variations in the time allotted to certain components within the programme and in the emphasis given to particular subjects, according to the different types of teacher training.

Another approach to the curriculum problem is the **phase approach**, characterized by the sequence of the individual components and subjects of teacher education for the entire course of study. In this way we are able to distinguish the different tasks completed by a given individual from the moment of his admittance to an institution of teacher education up to the time of final examinations and his entry into the teaching profession.

A. General Studies

The subjects designated general studies appear to have no immediate importance in teacher education, so far as the conduct of teaching is concerned. Their purpose is general education and is connected with that factor of education which creates a freely developed **man**, not a **member of a certain profession**. This component is therefore called "liberal education". It is a system of knowledge, theoretical methods, attitudes and values from the fields of natural sciences, social sciences, and humanities which are the starting point of

preparation for the calling and the whole background of the life of man.

The question arises here as to whether this component has or has not a place in teacher education. The answer depends, however, on the institutional conditions of teacher education, on the specific traditions of various countries, and on the character of the teaching profession in comparison with that of other professions.

1. Different concepts of general education in teacher preparation

Teacher education is rightly linked with what is taught and how it is taught at the schools for which the future teacher is prepared. As these schools are concerned with general education, the teacher is best prepared for the transmission of such education if he has gained adequate mastery of it himself. For the teacher an exacting general education is actually the best professional education.

There are also institutional factors : if teacher education is to equal the education afforded by general education schools of the same level, a substantial part of it must be devoted to general studies. Similar factors can also be applied in the education of teachers at schools of higher learning, particularly if all types of university programmes have general studies in their lower years. The requirement is then rightly imposed that general education should be the starting point of both specialized and professional study.

Perhaps it is only if teacher education is regarded as a supplement to the general education afforded by a certain type of school, (e.g. courses organized for graduates of higher secondary schools) that the argument in favour of the general education component is abandoned, mainly owing to lack of time in the programme.

General education has a different place in the preparation of secondary and in that of primary school teachers. While, in the case of secondary school teachers, it is subordinated to the demands of specialization in one or two subjects, in the preparation of primary school teachers, it conserves its importance and study time in the curriculum. Furthermore, for the latter, who usually teach all the subjects included in the primary school curriculum, extension of general education becomes a more urgent matter.

The rôle of general education in teacher education realized at institutions of higher learning also varies according to whether it is fully or only partially included in the curriculum. In the latter case, emphasis is placed on those subjects not sufficiently represented at secondary schools, such as philosophy, logic, sociology, political economy and political theory. It is with full justification that the theory is growing (and in some places is already being applied) that even general education should be somewhat professionalized ; this means for instance, that the mother tongue, (and sometimes other languages) should be taught with regard to the teacher's use of that language. Physical education can be treated in the same way.

2. General culture and professional competence of the teacher

General education has become an important and, at the same time, a controversial element in the preparation of teachers. Too much emphasis on general education impedes the professionalization of teacher education and its institutions, whose prestige in relation to other professional schools, depends on its ability to solve the specialized problems in its field with full scientific competency. At the same time the professionalization of teacher education is fostered by the argument that the general education acquired at a secondary school fully suffices for the performance of teaching. On the other hand, the argument is sometimes put forward that exaggerated professionalization makes teacher education a matter of formal training in professional techniques and procedures, which because it is not backed by general education, does not develop the personality of the future teacher. The development of the curriculum of teacher education depends on the degree of success achieved in linking the formation of general culture and professional competency of teachers.

It is quite obvious that general education must precede more profound specialization and professional preparation. For this reason it is included in the first half of the course of study. It is not possible, however, to disregard completely the practice of accompanying all forms of study with subjects which widen the cultural horizon of the future teacher. This applies particularly if general education courses are elective and are not considered part of the curriculum.

B. Subject courses

Specialized study is derived from the needs of the teaching activity of teachers concerned with a certain subject. This approach is considerably new and arose at the time when the preparation of primary school teachers reached the post-secondary level.

In actual fact, however, study in one of several branches of the arts or sciences is, historically, the purpose of a university, without any regard to a future profession, and thus without any regard to the preparation of secondary school teachers. Thus the cardinal question arises of how the aim of specialized study should be understood.

1. Academic disciplines and school subjects

In this respect the traditional university view predominates. Only a thorough education in academic disciplines without any kind of externally determined limitation can assure secondary school teachers an adequate degree of competency. It is only by pursuing an academic discipline at a university for the purpose of discovering and formulating new knowledge - a combination of teaching and research - that the future teacher is able to develop his personal education, that

is his special creative abilities, and thus to prepare for secondary school teaching. As there is an urgent need to maintain teaching on a high theoretical level and to ensure its constant modernization in the light of developments in the sciences and arts, which obviously applies in the case of higher secondary school, this viewpoint is highly justified ; it is unlikely that any strong attempts to secure professionalization would change it.

Nevertheless, it is impossible to disregard the complicated relation between academic disciplines and subject courses at general education schools. Modern natural and social science disciplines from which subject courses in secondary schools are constituted are highly specialized and represent dynamic research which very rapidly changes its standpoints and methods. At the same time from the point of view of pure research the relation of knowledge in natural and social science **to man** is not relevant. This relation is however important if a secondary school subject course created from a number of partial disciplines is to fulfil its educational purpose. This fact also should be taken into consideration in courses in academic disciplines for prospective teachers whose preparation should, at least in some of its components, differ from that of researchers - a differentiation which should take place particularly at the end of the period of study.

It seems that this solution has a certain hope of success, while extreme orientation of content and organization of academic disciplines toward the teaching profession is unacceptable to the university. This professionalization tendency can be applied in single-purpose institutions of higher learning for the preparation of lower secondary school teachers. It is here above all that a place exists for specialized study for the teaching of those subjects which are not derived from academic disciplines, such as crafts, domestic science, etc.

In spite of the fact that the two trends described above are in fairly sharp conflict and have uncompromising supporters, there is a theory that surmounts them, namely that within any academic discipline, there is an underlying methodological structure which should be incorporated in the teaching of the respective subject. However, this theory applies only on condition that in the preparation of teachers, academic subjects are taught on a very high level of teaching. "One learns to teach partly by being well taught" was said with great truth. For this reason especially high demand should be imposed on university teacher educators in regard to their teaching methods.

Certain problems also arise in order to harmonize the extent of the study of academic disciplines at universities with the needs of specialization determined by the secondary school curriculum. Specialized study for a single teaching subject is, from the aspect of school organization, too narrow, and consequently wider study is prescribed for 2 or sometimes even 3 teaching subjects. The most frequent programme is that which differentiates major and minor specialization;

the main subject of specialization can be studied more profoundly and on a more advanced level.

2. Specialized studies in primary teacher education

While in the university preparation of secondary school teachers specialized study is the focal point, at newly established institutions of teacher education on the post-secondary level, academic disciplines have a different status. The previous development of these institutions showed that without more profound education in 1 or 2 subjects it is not possible to ensure an adequate level of study. Here, however, academic disciplines occupy a place **next** to professional preparation. In order to bring these institutions to a level which will enable them to award academic degrees it is necessary to raise the level of teaching in specialization. At the same time, however, an effort is made to differentiate the new type of teacher preparation ending with the award of a degree, from the traditional university courses of study, by emphasizing pedagogical and related disciplines (e.g. the development of the College of Education in Great Britain).

There is a remarkable tendency in the education of primary school teachers (provided it is realized at institutions of higher learning) to overcome the dispersed and thus incomplete character of multi-subject preparation, through the more advanced study of a single elective discipline on the highest level e.g. Great Britain, the Federal Republic of Germany, Czechoslovakia). In this way the necessary prerequisites are created for the desirable modernization of the content and methods of the primary school as well as conditions for surmounting the differences between the preparation of primary and secondary school teachers.

C. Professional Courses

It appears that the most complicated problem of the teacher education curriculum at the present time is that component derived from the requirements of the teaching profession. While general and specialist studies result from the general tasks of school and university and are based on the development of culture, knowledge, and civilization as a whole, this part of teacher education is specific to the profession. For this reason it is also designated the **professional** or **pedagogical** part. Although its place in teacher education seems quite unquestionable there are certain doubts arising from the fact that teaching is a part of all human activity. Even though it has now become the subject of scientific study, it is regarded as a spontaneous manifestation of every day life.

1. The place of professional courses in teacher education

Differentiating the professional component of teacher education from the remaining content is in itself a very important problem. While in

some countries, general education and subject courses provide education in content, professional preparation is only formal and related solely to method and the teaching process. The opinion has been expressed that this is an artificial arrangement which does not correspond to the real character of teaching. Research in programmed instruction and in the development of new curricula will perhaps show, at least partially, the close and vital connexion among all factors in the teaching process.

The decision as to how much time should be devoted to professional courses in teacher education curricula, is more often the result of a struggle between representatives of academic and educational fields of study, than a matter of scientific analysis and planning. These struggles even penetrate into the school administration. The proportion devoted to professional studies in teacher education therefore varies according to country and institutions: from one eighth to more than one half of the programme; most frequently, however, it occupies one fifth to one third. Whether it is desirable to increase this proportion, depends on the progress of educational research and its proved influence on teaching practice. It cannot be achieved by purely administrative means.

Similarly, the arrangement and sequence of professional courses in the teacher education curriculum is not determined by scientific planning, but rather by tradition. Here two approaches exist: (1) either in the beginning of the programme or at the start of the second half, professional courses accompany subject courses; they are sequenced from more general to more concrete disciplines, and examinations parallel each other; (2) the professional component is strictly separated from other fields of study and forms a final, supplementary part; in this case examinations are also separate.

2. The Content of Professional Courses

It seems that the term "pedagogical component" is unsuitable because for a long time there has been more than one discipline concerned with education. The focus of educational research has shifted to tangential spheres between pedagogics on the one hand, and psychology, sociology, and philosophy on the other hand, and as a result, these disciplines are presented in the form of independent lecture courses. In practice their fundamentals are taught with a certain regard to education, i.e., the philosophy, psychology, and sociology of education, understood either as boundary disciplines with their own systems, or merely as a practical field of application of the more general disciplines.

This development has given rise to a number of dangers: the unified character of the study of educational phenomena is lost, and study is irrelevant to the actual performance of teaching tasks since it is understood as the study of academic disciplines without regard to practical teacher preparation.

In addition to these disciplines there are the more traditional courses, namely Principles of Education, History of Educational Ideas, School Systems and School Administration, General Teaching Methods or Didactics, Comparative Education, Economics of Education, and, in some cases, Experimental Education. Even if all courses are not given simultaneously in all institutions, or if they are not obligatory, they provide a conglomeration of knowledge of often disputable and conflicting values, whose relation to practical education is not apparent for the future teacher. The more scientific and specialized their methods of teaching, the more profound the mentioned conflict. Attempts to unite courses of pedagogical and related fields into a synthetic whole connected with practice are again threatened by dilettantism which lowers their academic authority.

The crisis in this sphere cannot be surmounted by limiting the professional component in teacher education and by transferring the responsibility for it from pedagogues to specialists from related fields such as philosophy, psychology, and sociology. Today educational theory is confronted with the urgent task of formulating, under new conditions of development, its scope structure, and research methods, as well as its place in teacher education. Efforts are being made to concentrate the knowledge of education essential to the prospective teacher into the following basic cycles within which the integration of knowledge occurs : (a) the meaning and aim of education examined from a philosophical, historical and comparative approach ; (b) the social function of education and the place of the school in the social system, sociological, economic, political, and administrative aspects ; (c) the growth, development and education of children, and the methods of influencing them by educational means, considered from the aspects of the psychology of learning, social psychology, general principles of education, and educational technology ; (d) measuring educational achievement in the case of individuals and larger groups, methods of experimental study of educational processes, from the aspects of psychometrics, educational and psychological measurements, and experimental pedagogy, and also as an instrument of self-evaluation and improvement of educational processes.

The selection and organization of professional courses are complicated by the necessary specialization for various grades and types of schools. One solution gives priority to general disciplines, adding independent and practically orientated specialization courses as a supplement. In other cases, emphasis in all disciplines is placed on consideration of a certain degree or type of school. However, once again it is not possible to adopt a general decision in favour of one or the other solution.

3. The problem of methods of teaching school subjects

One of the most remarkable tendencies of the recent period is the attempt to form new comprehensive theories on the teaching of school

subjects, which would gradually replace descriptive and purely pragmatic courses on teaching methods. These endeavours are instigated, on the one hand, directly by teacher education which seeks the integration of subject and professional courses¹⁴ and, on the other hand, by the plans for the modernization of teaching in primary and secondary schools. Recent development has shown that this new methodological approach has to pay equal attention to teaching methods, and to the structure and content of subject courses for primary and secondary education. It can be presumed that it is precisely in this field of the theory of teaching (in French-psycho-didactics), that considerable progress will be achieved in the near future, which may accelerate the professionalization of teacher education. It is on this basis that the necessary synthesis of all components of teacher education, including teaching practice, can best be achieved.

D. Teaching practice

Teaching practice, from which professional teacher education as we know it today originated, is threatened by the development of closer association between teacher education and the university. It is sometimes stated that general education, specialization and, in some cases, theoretical pedagogical preparation, are sufficient to ensure that a teacher is prepared for his work. Teaching is regarded as a matter of short-term adaptation in the first period of school service. The argument is also put forward that an institution of higher learning cannot have anything in common with elements that originated in former training colleges.

Another theory asserts that teacher education institutions should ensure complete preparation for the performance of teaching duties, including the ability to react to specific school conditions. Thus in a short time and through practical preparation, institutions of teacher education acquaint their students with teaching duties according to actual routine requirements, regardless of the future, and irrespective of new tendencies in the development of the content and method of teaching. However, it is necessary to understand teaching practice as a component of teacher education which has its own independent significance ; teacher behaviour, like educational attitudes and procedures, can be acquired only through specific training which cannot be replaced by other components even though it is unthinkable without them.

¹⁴ See for instance : E.R. Smith (ed.) "Teacher education, a reappraisal", Harper and Dow, New York, 1962. I. Ogorodnikov, "Contemporary tasks of teacher preparation", (in Russian), Narodnoe Obrazovanie, 1/1967.

In a curriculum conditioned by institutional aims, practical work either accompanies all forms of study, or is concentrated in the final period of study. It would seem that practical work in several phases accompanying the whole course of preparation, is the optimal solution for the professionalization of teacher education.

At the same time, however, this solution does not exclude the establishment of special, practically orientated facilities for the second phase of teacher preparation. Also distinguished are **observation** practice, which illustrates systematic lectures and **active** practice in the course of which the student gradually takes over teaching duties. Suitable here is a combination of practice realized in individual, isolated parts of school work (lessons, extra-curricular activities etc.), or in longer periods affording a more complex approach to teaching.

The basic factor of practical preparation is the standard of those who organize and lead it. In spite of the attempt to impose the duty of supervising teaching practice on all members of institutions of teacher education, the establishment of posts of specialized "clinical professors" can be expected in the future.

This description of the components of teacher education would be incomplete if we did not state that, beyond actual teaching activity, the organization of student life is of great importance for the teaching profession. There is no doubt that today, as in the past, developed teacher education systems are devoting great attention to this factor.

Suggested topics for discussion - Chapter IV

1. What is the place of general studies in teacher education ?
What is the impact of social and cultural developments on the content of general studies ?
2. What is the relation between the study of academic disciplines and the teaching of the corresponding school subjects ? What are the consequences of this relationship for the curricula ?
3. Should prospective primary school teachers undertake specialized studies ?
4. What is the rôle and relative importance of educational theory in the elaboration of programmes for teacher education ?
5. Is the professional orientation of academic disciplines in teacher education desirable ? If so, how should it be promoted ?
6. What is the relative importance of various educational disciplines in the preparation of different categories of teachers - (history of education, sociology of education, comparative education, adult education, etc.) ?

7. What should be the selection and organization of professional courses in teacher education ?
8. What are the advantages of concurrent and consecutive arrangements of professional courses and with subject courses ?
9. What are the shortcomings of current practice teaching and the necessary conditions for improvement ?
10. What professional problems do teachers face during their first years of service ?
11. How does the personality of the prospective teacher develop through his life in teacher preparation institutions ?

RESEARCH AND TEACHER EDUCATION

Documents from many countries provide evidence that there is not nearly as much systematic research conducted in the field of teacher education as in other educational fields. Statements of this problem are to be found in studies by Ogorodnikov in the USSR and by Stinnett in the U.S.A., and in the journals devoted to teacher education. (e.g., **Journal of Teacher Education**, U.S.A., **Education for Teaching**, U.K.).¹⁵ Special institutes of teacher education have been created, such as the Asian Institute for Teacher Educators at the University of the Philippines, and the Institute of Teacher Education at Charles University in Prague.

However, despite these developments, there has been no genuine and thorough evaluation of teacher education. This is due, in part, to insufficient recognition of the rôle of teacher education in the development of the educational system, and also to failure to identify clearly the theoretical problems for research in teacher education. As a result, reforms and planning in teacher education have been piecemeal.

The outline in Chapter I of major factors influencing teacher education is an attempt to classify some of the problems for systematic research. These factors should be the subject of historical and comparative studies and research conducted by logical analysis and objective observation and experimentation. It is our conviction that research in teacher education should be multidimensional, that this approach must take precedence over piecemeal research on completely separate problems. In the present period of change affecting all countries we cannot abandon this broad framework of ideas for the development of research in teacher education. As deeper and more fundamental changes are brought about by present and future needs, the greater is the necessity of being aware of continuity and general principles.

A. The levels of research in teacher education

Research on teacher education has been conducted on several levels, each with specific problems, and by traditional research methods and techniques.

¹⁵ I. Ogorodnikov, 1.c.

T.M. Stinnett: "The Profession of Teaching", 2nd ed. New York 1964. There are also special sectors on teacher education in some journals of general education, such as *Sovetskaja Pedagogika*, USSR, and the *Zeitschrift für Pädagogik*, Federal Republic of Germany.

1. Surveys on organization and curricula

The most numerous of the research studies are in the form of surveys. These have been carried out not only in countries with a decentralized school administration, but also in countries in which central school authorities prescribe in detail the aims, content, and sometimes also the methods of teacher education. The purpose of these surveys is to ascertain facts, to describe in detail and to classify. They contain opinions as well as facts on objectives and programmes : the content, organization and sequence of courses, the relation between general or subject and professional courses, methods, procedures in teaching practice, examinations, guidance of students, the internal organization of institutions, administrative practices, etc. - acquired by means of questionnaires, interviews, the analysis of documents, etc. The emphasis of such surveys is on those elements connected with the activities of institutions and teachers, and, in some cases, with the sociological and psychological conditions of teacher education. Many research workers do not believe that mere descriptive studies, in which large amounts of data are systematically gathered and collated in endless tables and charts, constitute research. Although such studies may contribute little to fundamental research, they are frequently useful in practical and immediate questions and may provide a basis for projection of trends in different aspects of teacher education.¹⁶ As surveys of this descriptive type are often related to national circumstances, their importance is limited ; surveys based on comparative methods could lead to some general conclusions.

2. Analysis of educational achievement

If student teachers and their responses to institutionalized procedures of teacher education become the starting point of research, it may be possible to form conclusions which are important for the whole educational process. The analysis of teachers' educational achievements reveals factors which are not clearly reflected in surveys. Furthermore, research based on the objective results obtained by special measurement techniques, tests, rating scales, inventories of attitudes etc., is more valuable than that based on personal opinions and analysis of school examination results and student records. Research organized on this basis permits the comparison of different teacher education institutions, and also a comparison between the latter institutions and study at other professional university branches or general secondary schools.

In addition to single investigations of educational achievement, it is recommended that repeated measurements be made on a longitudinal basis : before admission, at the beginning of the course, during and

¹⁶ Michael W.B. Teacher Personnel : A Brief Evaluation of the Research Reviewed in : Review of Educational Research, Vol. XXXIII, No. 4, Oct. 1963, p. 442.

at the end of study, with a sample student body. In all research models the problem has arisen of special criteria which should be applied in measuring achievements specific to teacher preparation. The problem is a theoretically difficult one. Some investigations avoid this aspect and treat the measurement of educational achievement in teacher education institutions in the same way as in the other branches, that is, neglecting the professional element of teacher education.

3. Development of courses and programmes

If we have to satisfy the urgent need for change in teacher education, we should be able to develop new courses and even whole programmes of teacher education. By this we do not mean small innovations, but radical changes. For this purpose new models of research in teacher education have been formed which, similar to school curriculum reform projects, go beyond mere description of organization, content and methods, and aim at the elaboration of new curricula and syllabuses.

Courses in teacher education should be constructed according to the following pattern :¹⁷ (a) determining **objectives** which are indicative of teaching competence and can be expressed in terms of student behaviour ; (b) development of **learning experiences** defined by these objectives ; (c) collection and evaluation of evidence of behavioural change in the direction of these objectives ; (d) systematic refinement of the course on the basis of this evaluation of its apparent effectiveness.

In this way teacher education research becomes a long-term developmental and experimental programme, for which adequate conditions must be created in institutions. The development of an overall structure sequence and co-ordination of courses is much more important than the elaboration of isolated courses and measurement of their effectiveness. Special attention should be given to the difficult problem of how to integrate practice teaching courses into the curriculum.

Research into teacher education has been stimulated by general curriculum development. It is recognized that the reform of teacher preparation and the further education of teachers should be undertaken parallel with any school curriculum reform.

Research in this field should also be related to efforts to modernize the teaching process and teaching methods (e.g., close-circuit TV, audio-visual aids, programmed instruction, language laboratories, etc.) The implications of these new methods and techniques for teacher education have only been investigated on a limited scale, although

¹⁷ Klausmeier - Swanson, cited in : T.M. Stinnett - Ch. M. Clarke : Teacher Education Programs. Ch. W. Harris/ed./: Encyclopedia of Educational Research, 3rd ed. New York, 1960, p. 1461 - 1471.

some of them, notably films and TV, could stimulate research into the learning process of professional teaching skills. Experimentally tested courses on audio-visual instruction should be established.

4. Assessment of teacher behaviour and the theory of instruction

The types of research described above could be unproductive if established views and obsolete principles are preserved, and unless the following questions are raised : how does a teacher operate during the teaching process ? Who is a successful teacher ? What are the criteria of teacher effectiveness ? What are the models of teacher behaviour ? We support the efforts to formulate a theory of instruction (Bruner ¹⁸) or a theory of teaching (Gage, Mitzel, B.O. Smith ¹⁹), or a theory of formation of instructional skills (Maciazek ²⁰) or teacher thinking (Walcyna ²¹) and to investigate teacher effectiveness and behaviour (Barr, Ryans ²²).

If the above problems are elucidated, we can determine precisely the aims, content and methods of teacher education which, until now, have been formulated rather unsystematically. We have to rise above the practical problems of teacher education in order to be able to analyse the teaching process and to fix behavioural structures at which teacher education should be aimed. This is a promising field of educational research which should yield new concepts of teacher education in the near future.

In order to define the competence of a qualified teacher, three major research needs have been formulated ²³ : (a) to identify the personality traits and aptitudes which good teachers must possess ; (b) to identify the essential knowledge and experience on which to base an effective programme of preparation ; (c) to define a valid basis for the certification of teachers.

¹⁸ Bruner J.S., "Toward a Theory of Instruction", Harvard University Press, Cambridge, Mass. 1966.

¹⁹ N.L. Gage (ed.), "Handbook of Research on Teaching", Chicago, 1963. B. Othanel Smith, "A concept of teaching", in : Language and concepts in education, Chicago, 1961.

²⁰ Maciaszek M., "Kształtowanie umiejetnosci dydaktycznych nauczycie a", Warszawa, 1964.

²¹ Walczyna J., "Myślenie i działanie pedagogiczne", Warszawa, 1964.

²² Barr A.S., "Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness : A summary of Investigations", in : Journal of Experimental Education, September 1961.

Ryans D.G., "Characteristics of Teachers", Washington, 1960.

²³ Kinney L.B., "The Measure of the Good Teacher", California Teachers Association, 1952.

Research into a teacher's attitudes and personality development, based on the longitudinal method²⁴, is of fundamental importance. In the course of teacher preparation there are important social and psychological changes in pupils' attitudes toward school and education which eventually become teachers' attitudes. It has been found that practice teaching and the first years in service exert a decisive influence. An analysis of difficulties experienced by student and beginning teachers is therefore one means of identifying needed improvements in teacher education programmes.

Of equal importance are efforts to devise scales for predicting teaching success. The Minnesota Multiphasic Personality Inventory (Cook and others) and research into the characteristics of teachers carried out by Ryans, represent important projects conducted in this direction. Thanks to their further efforts we may expect better selection of prospective student teachers. A more rational selection procedure could, under favorable conditions, raise the level of school education in the future. Careful selection will not only improve the quality of teaching, but will actually increase the teacher supply by enhancing the status of teacher education.

B. Some related fields of research

1. Sociology and psychology of the teacher

The institutional changes in teacher preparation and the changing social structure in all societies are reflected in the social status and prestige accorded to teachers. Research into the social origin of teachers, for example, in France, Italy and Ireland, has revealed the cause of difficulties in teacher-pupil relationships. Knowledge of the newly emerging social group of teachers in the developing countries, is of considerable interest. Another aspect of research is the influence of the "feminization" of the teaching profession upon attitudes of young people to education and upon their personality development.

Initial research into the social status of teachers in industrial societies, conducted by Floud²⁵, Kob²⁶, Lemberg²⁷, has lead to some conclusions. Research on vocational interests of young people in teaching could be included in this field, as it provides useful information for

²⁴ Helkkinen V., "Educational attitudes of teachers under training and in the first in-service years", Helsinki, 1962

²⁵ J. Floud, "Teaching in the Affluent Society",

²⁶ J. Kob, "The Teacher in Industrial Society", both in *The Yearbook of Education*, 1963: The Education and Training of Teachers. London, 1963.

²⁷ Lemberg E., "Zur Soziologie des Lehrers", In: *Mitteilungen und Nachrichten der Hochschule für internationale pädagogische Forschung in Frankfurt a.M.*, Nr. 21, 1959.

stimulating recruitment policies. School administrators and professional teachers' associations are also interested in the employment problems and working conditions of teachers. Teacher educators and administrators may derive from this research useful elements for the adaptation of teacher education to current conditions.

Another related field is psychological research on teacher personality, aimed at discovering those abilities, attitudes or personality factors of teachers which are specific to the profession. There has also been a research project undertaken to formulate a typology of teachers (Caselman²⁸, Langeveld²⁹). On the one hand, the research on teacher personality should indicate requirements for teacher preparation, and on the other hand, the analysis of the latter is likely to contribute to an understanding of teacher personality. Finally, teacher preparation should be investigated as a factor influencing the mental health of teachers (Wall³⁰) in order that selective and preventive measures in this respect could be taken in teacher education.

2. The "productivity" of teaching

Unless we intensify the "productivity" of teaching, it is unthinkable to increase the number of teachers employed for reasons of individualizing teaching. Research on teacher education should take into account the problem of rationalization and productivity of teaching. It would seem desirable to release qualified teachers from unimportant administrative tasks. Such measures could lead to specialization of teachers for various functions, for example remedial reading, educational and vocational guidance, teaching aids, etc. As yet there is little knowledge as to the practical consequences of modern teaching aids for teacher education, that is, their application or supplements to, and not substitute for, teachers in school. The results of research on all these topics should considerably influence planning for teacher recruitment, and will therefore be of direct concern to teacher education.

C. The place of research in teacher education institutions

The majority of changes recently instituted in teacher education could be characterized as curriculum reforms. In our opinion, however, the consolidation of teacher education institutions will take place only in those places where teacher educators promote the progress of knowledge in academic fields, and especially in pedagogy.

²⁸ Caselmann Ch., "Die Lehrerpersönlichkeit", In: M.K. Strunz (ed.): *Pädagogische Psychologie für höhere Schulen*, Reinhard Verlag, München - Basel 1961. Chap. XVI.

²⁹ Langeveld M.J., "The Psychology of Teachers and the Teaching Profession", In: *The Yearbook of Education 1963*, London 1963, p. 399.

³⁰ Wall J., "Education and Mental Health", 3rd ed., Unesco, Paris 1964.

Adequate place should be found in teacher education institutions for teaching various specializations : fundamental research, experimental work in curriculum, textbook and methods, model classes, the further education of teachers, the education of parents, etc. The preparation of teacher educators for research is the most urgent task of the present stage of teacher education institution. Since teaching duties are too demanding, it would be useful to establish posts for research assistants.

There are further important arguments in favour of educational research at teacher education institutions. "In the course of their studies beginning with the second or third year of study, prospective primary and secondary school teachers should be able to acquire, at their own level, a knowledge of the principles and techniques appropriate for educational research. This information should also be given to teachers taking refresher courses. This work should be carried out in such a way that the people concerned take an active part in the research work, understand the value of scientific investigation into education and are able to grasp its practical aspects." ³¹

To include educational and related research within teacher education institutions or to maintain teacher educators in close contact with separate educational research institutes and curriculum development centres, are the only ways to involve education and the school system in the scientific and technological revolution and to give a powerful impulse to teacher education. Research-centred institutions of teacher education will establish the reliable and steady professional basis for teaching which we consider as one of the major trends of contemporary educational endeavours in most countries of the world.

Suggested topics for discussion - Chapter V

Research and teacher education

1. What are the principal types of research being conducted in teacher education in different parts of the world ?
2. What are the implications of current curricular reforms and new methods for research in teacher education ?
3. What are the essential conditions for carrying out research in teacher education institutions ?
4. What relations should be established between teacher education institutions and outside educational research bodies ?

³¹ Recommendation No. 60 concerning the organization of educational research. International Conference on Public Education, Geneva, 1966.

PROFESSIONAL PREPARATION OF TEACHERS IN THE LIGHT OF RECENT ADVANCES IN EDUCATIONAL THEORY AND TEACHING TECHNIQUES

EDUCATIONAL DEVELOPMENT IN THE USSR

I.T. OGORODNIKOV and T.A. ILYINA

During the more than fifty years of its existence, the Soviet State has travelled a long, difficult and glorious road. Once a backward agrarian country, it has become a highly industrialized power with spectacular advances in science, technology and culture to its credit.

Soviet higher educational institutions have also achieved great progress. Persons trained there now work in all branches of the national economy, science and culture. Moreover, the training of specialists is constantly developing. During the last few years, twenty-two new higher educational institutions have been opened, as well as scores of affiliated branches and faculties.

The national system of education is one of the major achievements of the Soviet State. In a relatively short space of time, the country completely eradicated illiteracy, which had existed for centuries, established general compulsory eight-year education, proceeded to the introduction of universal secondary education and developed a vast network of general secondary schools, vocational-technical schools, specialized secondary schools and higher educational establishments.

In the USSR, the general educational level of the people has risen to an unprecedented extent.

In pre-Revolutionary Russia, according to the 1914 statistics, there were 9,650,000 primary and secondary school pupils, whereas in the academic year 1966/1967 (i.e. under the Soviet régime), there were 48,100,000 pupils at the various types of general educational institutions. The total number of students in specialized secondary and higher educational establishments rose from 182,000 in 1913 to 8,102,000 in 1966/1967.

Between 1918 and 1966, 11,000,000 specialists were trained at secondary schools and approximately 7,000,000 at higher educational establishments.

In 1966/1967, the total number of pupils and students in the USSR was 72,500,000.

Teachers play a great and responsible rôle in the education and instruction of the rising generation. The Soviet State and people entrust them with the development and training of all the young people in the country.

Great minds of all time have realized that the teacher plays a great part in the life of the community. K.D. Ushinsky wrote that a child develops mentally and spiritually under the direct influence of the teacher's personality and that nothing can replace the teacher's beneficial influence on his pupils. He strongly criticized the autocratic régime and ruling classes of Russia for their utter disregard for the teacher's work and teacher training. N. G. Chernyshevsky, N. A. Dobrolyubov and other Russian revolutionary democrats regarded the teacher's work as the realization of the loftiest public ideals.

In his last work, "Pages from a Diary". V. I. Lenin wrote as follows : "We should place our teachers on a level which they have never reached before and which they would never be able to reach in a middle-class society. This is a truth which requires no proof. We must achieve this end by systematic, constant and persistent efforts directed towards: the teacher's spiritual progress, his overall training for his truly noble profession and, most important of all, his material well-being."¹

Lenin's behests regarding teachers in the USSR are being steadily carried into effect. The Soviet Government and the Communist Party have always regarded teacher training as a matter of great national importance and have given it very great attention.

Teaching is one of the most honourable and esteemed professions in the USSR.

The best teachers are awarded the honorary title of Honoured Teacher of a school (of a Union or Autonomous Republic). Today, some 300,000 teachers have received government awards; the Order of Lenin, the most important government decoration, has been awarded to more than 30,000 teachers.

The Soviet people constantly shows its confidence in and esteem for Soviet teachers by electing teachers to the Supreme Soviet of the USSR and of each of the Union Republics and to local Soviets of Working People's Deputies.

The Soviet Government is doing much to improve the teacher's material well-being. Teachers' salaries have been frequently increased and pensions have been raised. The last increase in teachers' salaries (20-25 %) was made in the summer of 1964.

In response to the encouragement given by The Communist Party and the Soviet Government, teachers devote themselves selflessly to the education of the rising generation.

¹ V.I. Lenin, "Complete Works", Vol. 45, pp. 365-366.

Over a period of many years, hundreds of thousands of teachers have not had a single pupil who had not been promoted and have distinguished themselves by their professional competence and disinterested activity in various fields of communist construction.

The decree "On measures for further improvement in the work of general secondary schools" adopted in November 1966 by the Central Committee of the Communist Party of the Soviet Union and by the USSR Council of Ministers, emphasizes once again that the further improvement of education depends primarily on the teacher, his scientific and methodological training, his ideological outlook and cultural level. It also stresses that suitable conditions should be provided for efficient teaching, that teachers should continuously improve their qualifications and that laws concerning the protection of the work, privileges and advantages of educational workers should be strictly applied.

Some present-day problems of Soviet educational theory and the tasks of teacher training.

Under the Soviet régime, a new Soviet educational theory has been elaborated, namely, the science of the communist education of the rising generations which is the scientific basis for State policy in regard to education and the communist training of the workers.

Soviet educational theory aids the educational authorities in determining the content of education and instruction and in elaborating the structure of educational establishments ; it studies and sums up valuable experience acquired by schools, defines and tests the most effective forms and methods of education and instruction, raises new educational problems and indicates how they can be resolved in practice .

The principles of Soviet educational theory and State policy in respect of all fundamental questions relating to education have been clearly defined. That is why Soviet teachers begin their work with definite views on the most important aspects of education and instruction.

The Soviet teacher is first and foremost an ideological educator responsible for developing among young people a scientific, social, political and civic outlook. To be equal to this task, the teacher, in addition to receiving a thorough specialized and professional training, should acquire a broad philosophical and socio-political outlook.

This philosophical and socio-political training is closely linked up with teacher training proper, since the main problems of education and instruction are also social and philosophical problems. They are primarily problems of the training of modern man, the problems of the relationship between education and other social factors, problems of the ethics and aesthetics of education, problems concerning the rôle of the community in development.

The most recent results of sociological research concerning the influence of the social environment on man and social relationships between people are of great importance for the present-day interpretation of educational factors.

Teacher training in the USSR includes the study of the basic principles of the sciences which are concerned with the nature of man and the laws governing man's physical and mental development and which reveal the laws regulating the higher nervous activity and those mental processes which occur in children at different ages under the influence of education and instruction.

The numerous investigations of Soviet psychologists and educators show that, by changing the conditions of education and instruction, it is possible to exert a fundamental influence on the child's development.

Soviet education theory rejects that fatalistic character of heredity in the development of children which depreciates the rôle of education ; it considers that even the development of inherited human traits of a general nature depends not only on hereditary factors but primarily on social conditions and relations. While recognizing the hereditary nature of the traits which characterize a pre-disposition to a particular kind of activity, including intellectual activity, Soviet educational theory and psychology show that the decisive prerequisite for the development of children is the creation of conditions under which children can be induced to engage in activity corresponding to those traits.

Soviet educational theory adopts an equally affirmative attitude with regard to the possibility of developing the individual's spiritual qualities through education. From the standpoint of Soviet psychology and physiology, all the mental and spiritual qualities of an individual are formed and developed in the proces of interaction between the organism and its environment.

Marxian educational theory and psychology reject the hypothesis of the existence of inborn ideas and moral qualities such as laziness, cowardice, good or evil inclinations, religiousness, etc., and assert that the development of these qualities occurs under the influence of education and environment, that all these qualities are acquired by the child exclusively through his own social experience. The existence of negative qualities in a child simply shows that his previous education was defective, but these qualities can be rectified.

Soviet educational theory regards education as inseparable from the child's social environment and activities. The school's influence on the pupils is sustained and strengthened by the entire Soviet community and ever greater efforts are being made to increase the efficiency of teaching. Moreover, the teacher knows that children sometimes fall under unfavourable influences outside the school. He

studies these influences, combats them and tries to prevent them from diminishing the educational influence exercised by the school and the socialist system as a whole.

Now that the rôle of science and technology has increased to such a great extent and the exchange of scientific information is constantly developing, the school and educational theory are faced with many new problems relating to the education and instruction of youth. Under these conditions, special importance has been assumed by problems such as the scientific elaboration of the content of school education, the search for more effective forms and methods of education, and the development of the mental and learning capacities of pupils.

The Soviet school provides not only general education but also a polytechnic education and instruction in the various branches of labour. Its aim is to provide pupils with a knowledge of the scientific bases of present-day production, to develop in them working habits and skills and to imbue them with a communist attitude toward work. Although the Soviet school is essentially a school of general education, it also trains pupils in such a way as to enable them to make a studied choice of their future occupation.

Labour and polytechnic education and instruction are provided during all stages of schooling, primarily within the framework of science studies, occupational work, out-of-school work and the socially useful and productive activities of pupils.

Soviet education makes special efforts to develop the pupils' mental abilities, give them a thirst for knowledge and increase their capacity for independent and creative work. It is recommended that greater encouragement should be given to independent work by pupils in all stages of schooling and that pupils should be induced to seek after the best solutions to certain problems. The teacher devotes considerable efforts to teaching his pupils rational and time-saving methods of thought which enable them to achieve more fruitful results and play a more active part in the learning process. Algorithms in education, especially when pupils have to study methods of resolving typical problems, are regarded as a means of developing logical thinking, of organizing work on a systematic basis and of ensuring an analytical approach to the solving of problems. Increased attention is given to educational research methods and to making pupils familiar with methods of science itself.

The new concepts of mental training find expression in the content of education. Apart from the efforts to bring the content of the basic sciences studied at school into line with the level of general scientific development, considerable work has been done with a view to the redistribution of the teaching material among the various years of schooling in order to ensure that pupils are faced with a sufficiently heavy task to stimulate a more intensive effort on their part. Lengthy experimental work by Soviet teachers and psychologists, showed

that the learning capacities of primary school pupils had been underestimated. On the basis of this research, it was decided to reduce the period of primary schooling from four to three years and to devote a larger place in the primary school curriculum to theoretical studies of grammar and arithmetic in accordance with rational teaching methods which stimulate the pupils' mental processes.

Research is also being carried out with a view to studying the efficacy of the so-called structural approach to the teaching of the elementary principles of science; according to this method, pupils are made familiar at the beginning of the course with fundamental principles and with the characteristics of the phenomena studied; they are then taught how to apply general principles to particular cases. Thanks to that approach, the memorizing of the various facts, and their correlation with the general structure of knowledge are facilitated and pupils are taught general methods of studying and classifying phenomena. The more pupils understand the structure of the subject and its system, the more they are able to study more condensed and important problems without fatigue.

Today much attention is being given to the establishment of "links" between various subjects; they help to give a comprehensive understanding of science, of the interrelations between phenomena and the latter's interdependence. Such links are also established between individual subjects (the so-called "intersubject links").

The soundness of knowledge depends to a large extent on the memorizing of the facts taught. Until recently, too much stress was laid on memory. Today, when the chief task is to teach pupils to think and develop logical memory, distinctions are made between the things which have to be memorized and those which have to be assimilated. This should be done on the basis of fundamental and thoroughly learnt facts, concepts, figures and other data.

Increasing attention is being paid to an individual approach in teaching pupils. In Soviet schools, pupils of the same class are not divided into groups according to their abilities. Collective forms of teaching which entail the co-operation of all the pupils in the class are employed.

The teacher gives the same lesson to the whole class and all the pupils are induced to take an active part in it. However, this collective type of study does not preclude the possibility and necessity of assigning to individual pupils special tasks and questions which are conducive to a better understanding of the subject taught and to the development of individual interests and abilities. Soviet teachers and psychologists have conducted numerous experiments in connexion with the combining of collective and individual forms and methods of independent work.

To assess more accurately the abilities, propensities and interests of individual pupils, and to provide them with a better preparation for life and for the choice of their future occupation, optional courses

have been introduced into Soviet schools with a view to deepening the knowledge of pupils in the various branches of science, technology and art.

Modern teaching techniques are being introduced into Soviet schools on a large scale ; these include films, sound recordings, radio, television, etc. ; documentary films, filmstrips and slides, of which considerable quantities are made for the teaching of all basic subjects, are those which have been developed to the greatest extent up to the present.

Sound recordings have long been used by teachers in their class work. Recordings of excerpts from literary works (both prose and poetry) recited by artists, records in foreign languages and musical recordings are also widely used.

Recently, there has been an increasing tendency towards the wider use of technical devices such as films, slides, television and teaching machines.

A special place in the system of modern methods of education is reserved for the elaboration of a scientific basis for the theory and methods of programmed education, which is considered by Soviet educational theory to be one of the most effective means of improving teaching.

Research by Soviet scientists has shown that programmed teaching, used together with other means and methods of education and regarded as a guided and controlled form of independent work, can definitely help to develop the learning capacity of the pupils, increase the efficiency of teaching and make it more individualized. Moreover, programmed education, particularly its technical means, provide the teacher with an effective instrument for checking and assessing the pupil's knowledge and for organizing teaching.

Programmed teaching in the USSR is studied in relation to other active methods of education and in combination with other technical means.

Wide development has been given to out-of-class and out-of-school activities conducted in various establishments such as Young Pioneer Palaces or Centres and directly in schools by pupils' organizations.

The influence of the school continues to increase as it is now organizing the leisure of children in the home. The teacher should be specially trained for this sort of activity which makes it possible to diminish even further the unfavourable influence exerted on the pupils outside the school.

We have mentioned but a few of the tasks and problems which are tackled by educational research establishments and schools and which should be studied by teacher-training schools.

The teacher should introduce into his teaching everything new and progressive which is acquired by experience or by way of experiment

and which is integrated in the science of education for the benefit of the modern school.

Teacher training in the USSR

In pre-revolutionary Russia, special teacher-training establishments trained teachers solely for lower and upper primary schools. The main educational establishments were teachers' seminaries providing a four-years course for future lower primary school teachers and teachers' institutes providing a three-year course for future upper primary school teachers.

As at 1 January 1917, Russia had a total of 171 teachers' seminaries with some 20,000 students and 58 teachers' institutes with some 4,000 students.

Girls' classical secondary schools and diocesan schools also trained women teachers for primary schools.

As a rule, classical, non-classical and other secondary school teachers were university graduates without special teacher training. A certain proportion of teachers for girls' secondary schools and the lower grades of men's secondary schools received higher teacher training of a university type.

Immediately after the October Socialist Revolution, old teacher-training establishments were reorganized and new ones were opened. Numerous teacher-training courses were instituted, teacher-training faculties were created at universities, teachers' seminaries and institutes were transformed into technical teacher-training schools, educational and teacher-training institutes. By the 1930's a stable system of teacher training had been established.

At present, pre-primary and primary school teachers are trained by teacher-training schools providing a four-year course for those with eight-year education and a two-year course for those with secondary education. Since 1958, alongside of the teacher-training schools, faculties have been created at the teacher-training institutes for the training of primary school teachers with higher education.

The following higher educational establishments train teachers for secondary schools: teacher-training institutes, universities and some specialized higher educational establishments such as conservatories, art institutes, foreign language institutes and physical culture institutes.

In the academic year, 1965/1966, there were 358 teacher-training schools with 238,800 students and 211 teacher-training institutes with 776,600 students. Evening and correspondence courses were followed by 54,100 and 446,500 students respectively. The faculties of teacher-training institutes for primary school teachers had 80,000 students.

What are the qualities required of teachers trained by these establishments? The education of the rising generation can be entrusted only to those teachers who have themselves been brought up in the spirit of the progressive ideas of our time, have a balanced scientific outlook and firmly believe in the construction of a society without national oppression, exploitation and the domination of one class by another.

The teacher should have received an all-round education and have a complete mastery of his profession.

The teacher should have a broad educational outlook, know the principles governing the physical and mental development of children, be able to use the most recent methods of school education and instruction, and be attentive and tactful, efficient and exacting, human and just, consistent and tenacious.

The success of a teacher greatly depends on his interest in and love for the school and the pupils. No one can be a good teacher unless he likes school, has vocation for teaching and is able to come down to the child's level.

Teaching is one of the most creative professions and cannot be reduced to mere routine. The teacher who thinks creatively never rests content with what he has achieved, but always improves his teaching; he not only introduces into the school all new theoretical and practical achievements in education and instruction but is always in quest of innovations.

The teacher's training is acquired through the study of educational theory, the critical analysis of his own experience and that of other teachers and through the constant improvement of his qualifications.

Let us now consider the various types of teacher-training establishments.

Teacher-training schools, as a very special type of a secondary teacher-training establishment, had their origin in the pre-revolutionary teachers' seminaries, on the basis of which teacher-training courses were created after the Revolution; later on, these courses were transformed into teacher-training technical schools which in 1937 were given the name of teacher-training schools.

The general educational and professional training of students of these schools includes anatomy, physiology and hygiene of children of a certain age, psychology, educational theory, the history of educational theory and also special subjects such as the Russian language and the corresponding teaching methods, mathematics and the corresponding teaching methods and the fundamental principles of other sciences included in the primary school curriculum. A large amount of time is devoted to drawing, singing, physical culture and workshop activities. Simple visual aids are also prepared by the pupils.

Kindergarten and primary school teachers are required to learn to play at least one musical instrument.

A very important aspect of the training of students of teacher-training schools is teaching practice which takes place at kindergartens and primary schools.

The introduction of general eight-year schooling and the transition to general ten year schooling considerably increases the demands made of teachers at all educational levels. The quality of work in the senior grades of secondary schools greatly depends on the knowledge received at the primary school. Only highly qualified teachers can provide sound knowledge at the primary school. It may be recalled in this connexion that at a number of teacher-training institutes, faculties have been created for the training of primary school teachers with higher education.

In the RSFSR, faculties of this nature exist at twelve teacher-training institutes. The curricula of these faculties are co-ordinated with those of the teacher-training technical schools and those of other faculties of teacher-training institutes. The students of these faculties study a wider range of social disciplines, receive a more thorough professional training and their standard of specialization is higher.

Teacher-training institutes are a completely new type of higher educational establishment, created after the October Socialist Revolution.

The aim of teacher-training institutes is to train for all grades of secondary schools (grades 5 to 10) highly qualified teachers possessing not only a thorough theoretical knowledge of the subjects to be taught but also a good practical training in teaching methods.

At present, teacher-training institutes prepare teachers for all the subjects taught at school, and provide specialized training for those who will work with handicapped children at auxiliary schools.

In 1965, there were 211 teacher-training institutes in the USSR, including 11 teacher-training institutes for teachers of foreign languages.

In general, the theoretical training of teachers at teacher-training institutes covers socio-philosophical, special and educational subjects.

The socio-philosophical course includes such subjects as the history of the Communist Party of the Soviet Union, political economy, philosophy and scientific communism. Teachers who give instruction in these subjects try to approach them from an educational angle, linking up the main problems with the task of educating the rising generation.

The specialized training of teachers occupies the central place in the work of teacher-training institutes. Teachers of mathematics, physics, biology and other subjects should have a thorough knowledge of the fundamental principles of the sciences studied at school and of the latest achievements of these sciences. These demands are organically interrelated.

The professional and didactic trends of specialization at teacher-training institutes is of fundamental importance. The purpose of these institutes of higher education is to train authentic biologists, physicists, historians and other scholars having a thorough knowledge of the fundamental principles and achievements of their respective branches of learning, desirous of inculcating the same qualities in the rising generation and able to use the most modern methods of teaching. The development of these qualities in students is influenced by the standard of the teaching of special subjects, by the teaching methods, by the organization of laboratory and other practical work, by independent work by students and by many other factors. Lastly, the teaching methods of higher educational establishments are substantially different from those of the schools, but it would be a mistake to think that they have no influence on the training of future teachers.

Didactic subjects occupy a fundamental place in the training of secondary school teachers.

The study of these subjects begins with the course in general and educational psychology, which comprises lectures, seminars and practical work.

During this course, students become familiar with the main trends in psychology, study the physiological principles of the higher nervous activity, various psychic processes and the development of personality. Special attention is given to the study of child and educational psychology, which are of great importance for the discovery of the principles governing the education of children of the various age-groups. At seminars and practical courses, students are trained in the methods used for the study of children and in the psychological analysis of the teaching and educational process.

The psychology course is followed by the educational course. The chief purpose of this latter course is to provide the future teacher with a broad educational outlook. It makes students familiar with the main educational problems, shows how these problems are solved in the Soviet Union, points out the problems which are not yet solved and indicates approaches to their solution ; it also indicates which of these problems give rise to controversy, describes the various points of view and encourages students to define their attitude toward them so that they may later on participate actively in their formulation and solution.

The first part of the educational course is devoted to general problems in this field : the subject and methods of education ; the aims and tasks of education ; development and education ; the aims and content of physical, mental, vocational, moral and aesthetic education and of general polytechnic and professional education. This part of the educational course concludes with a description of the characteristics of the systems of public education in the USSR and abroad.

The second part of this course, devoted to didactics, includes a study of the nature of the teaching process, the principles involved, the content, forms and methods of teaching. This part of the course concludes with a definition of the fundamentals of programmed education. Special stress is laid on the study of the students' development and they are encouraged to play a more independent and creative rôle in the teaching process.

The third part of the educational course is devoted to school educational methods. It begins with a definition of the nature and principles of education, and then deals in turn with such problems as the organization and training of students, the forms and methods of educational work of pupils' organizations, of out-of-school activities and of the work done by class superintendents, the education of children in the home, etc.

The theoretical material presented in the form of lectures is confirmed by the students' observations during their practical experience at schools. Students observe and analyse lessons given by teachers, talk with class superintendents and with senior Young Pioneer leaders, attend and analyse Young Pioneer meetings and other out-of-school activities. On the instructions of teachers, groups of students visit other types of schools and educational establishments, such as boarding schools, schools in which tuition is conducted in foreign languages, Young Pioneers centres, children's excursion and touring stations, sports schools, young naturalists' stations, children's technical stations, etc.

During seminars, students submit reports and papers on various questions and discuss the most important educational problems in regard to which they express their own views. During these seminars, students often solve educational problems frequently based on interesting occurrences in their own everyday life and practical experience.

Also during the seminars, students are made familiar with specimens of the various types of aids (e.g. programmed textbooks or passages from them, collection of problems and exercises) with notebooks containing elements of programming, with test cards for automated control, with programmed supplements to the ordinary textbooks and with specimens of teaching machines. At present, however, this type of work is being done only by those institutes which conduct programmed educational work, or by institutes whose students are able to visit educational establishments or scientific bodies where this type of work is organized.

After the education course, students study the history of educational theory. The latter course describes the development of education and teaching as a science at the different stages in the development of society, from ancient times to the present day. Attention is concentrated on the educational views of eminent educators. Thus, for

instance, in the section devoted to the general history of educational theory, students are made familiar with the educational views of Y. A. Komensky, J. Locke, Jean-Jacques Rousseau, J. H. Pestalozzi, C. A. Helvetius, D. Diderot, F. A. W. Diesterweg, J. F. Herbart, H. Spencer, J. Dewey and others. The part of the course devoted to the history of educational theory in Russia deals with the educational views of M. V. Lomonosov, A. N. Radishchev, V. G. Belinsky, A. I. Herzen, N. G. Chernyshevsky, N. A. Dobrolyubov, K. D. Ushinsky, L. N. Tolstoy and others.

An overall study is made of the elaboration and development of Marxian educational theory, of the educational views of K. Marx, F. Engels, V.I. Lenin and of prominent Soviet educators, such as N.K. Krupskaya, A.S. Makarenko, etc.

The courses in educational theory and the history of educational theory are followed by courses bearing on the methods of physics, mathematics, foreign languages, etc.

These courses throw light on the educational nature of the subject concerned, its content and the methods of studying it, the forms and methods of teaching it, the development of independent and creative work by students within the framework of class and out-of-class activities, and the methods of teaching each particular subject. Lectures are given, seminars, laboratory work and other practical work are organized; the best teaching results at school are analysed.

At the faculties of the larger teacher-training institutes, there are departments of methodology which carry out educational and research work in this field, co-ordinating it with the departments of educational theory and psychology and with other special departments.

Teaching practice plays an important rôle in the training of student teachers.

During the first and second years of studies, students work at schools as assistant class superintendents on a voluntary basis, carrying out various tasks in co-operation with the pupils within the framework of out-of-school activities.

The first practical work provided for in the curriculum is the practical work with pupils during the summer period. This work is carried out at the Young Pioneer camps in the countryside and the students act as teachers and leaders.

Teaching practice during the last two years of studies is organized at schools under the guidance of methodologists, teacher educators of the institute and experienced school teachers. Students acquire experience as teachers of the subjects in which they are specialized, as class superintendents, and as organizers of out-of-school educational activities. Guidance by the teachers of the institutes ceases during the final stages of the practical course.

To improve the preparation of students for teaching practice, several teacher-training institutes have so-called faculties of public professions, where students work on a voluntary basis.

The tasks of these faculties include the broadening of the students' outlook in the fields of aesthetics and of the history of the various forms of art ; practical training for the various branches of aesthetic education and instruction in the methods of directing amateur art activities. These faculties usually have the following sections : choral music, choreography, stage direction, recitation, wind-instruments, cinema, photography, decorative design.

Special seminars on educational theory, psychology and methods are organized for senior students and are of great importance. As a rule, these special seminars are devoted to the study of the most urgent problems in research fields of greatest interest to various teachers and professors.

The result of the special seminar work is a class paper summing up the practical and theoretical work carried out by the student in regard to one of the aspects of the problem chosen for study.

Papers on educational theory or teaching methods presented for diplomas are often based on class papers, but contain more scientific generalizations and are of a research nature ; they are sometimes based on educational experiments carried out independently by the students themselves. For example, during the past few years many students have written papers on particular aspects of programmed education, preparing their own programmed aids and testing them in class work with pupils.

The papers for diplomas are often of a scientific nature based on research carried out by the student during the years he spent at a student scientific society (SNO).

The presentation of papers for diplomas of educational theory or methodology may take the place of State examinations in these subjects.

At present, it is proposed that the testing of methodological knowledge should be included in the examination in the corresponding subject, and the testing of knowledge of psychology in the State examination in educational theory. This innovation is expected to increase the importance of educational subjects in the general system of teacher training.

Universities.

In addition to the teacher-training institutes, the universities also train secondary school teachers but, in comparison with the institutes, they train no more than 15-20 per cent of the total number of such teachers.

What is the difference between teacher training provided at universities and that provided at teacher-training institutes ?

This difference resides primarily in the fact that the training of teachers at teacher-training institutes is the sole activity of these institutes, while universities train specialists for both scientific research and teaching activities.

The second difference is that unlike teacher-training institutes, the universities provide students with a narrower but more thorough specialized training in a particular branch of learning and students undertake research on a much wider scale.

The educational and methodological training of students for future school work is given less importance at universities than at teacher-training institutes. Structurally, his training is similar to that given at teacher-training institutes but it is very different as regards its scope and nature. The courses in psychology educational theory and methodology are much shorter and there is less teaching practice in schools

At present, owing to the improved standard of the teaching of the fundamental principles of science at school, and the introduction of optional courses, the school demand for teachers with an advanced scientific training is steadily growing. That is why universities continue to play an important rôle in the training of highly-qualified teachers, especially for the senior grades of secondary schools.

Measures are being taken to increase the educational trend of the training of students who intend to become school-teachers. Many universities have teacher-training departments where such students may be separately enrolled.

Evening and correspondence teacher-training courses.

Higher teacher training in the form of evening and correspondence courses is provided by the corresponding faculties and departments of teacher-training institutes, while secondary teacher training in the same form is provided by the corresponding departments of teacher-training schools. There are two independent teacher-training institutes in Moscow and Yerevan (Armenian SSR) which provide training exclusively by correspondence. Teacher training provided in this form covers roughly the same subjects as are taught at the departments providing full-time day training, but the course lasts one or two years longer.

Recently, in connexion with the even higher qualifications required of secondary school teachers, efforts have begun to be centred on full-time day teacher training. Since the academic year 1961/1962, the number of enrolments at faculties whose courses require a considerable amount of practical and experimental work has been diminishing.

Teacher-training establishments providing evening and correspondence courses mainly recruit persons whose future work will be connected with the education of children. These persons include primary teachers who wish secondary teacher training ; teachers of grades 5-8 who have not completed their higher education ; teachers desirous of receiving teacher training in other subjects, kindergarten teachers and Young Pioneer leaders. This approach to the selection of trainees has certain drawbacks, inherent in the system of evening and correspondence training but they are counterbalanced to some extent by the practical training provided.

Admission to the full-time day departments as well as to the evening and correspondence departments of teacher-training establishments is by competitive examination.

Graduates of evening and correspondence departments enjoy the same rights as those of the full-time day departments. The evening and correspondence courses are greatly appreciated by teachers who are employed at schools but who have not received any higher education. Their interest is encouraged in every possible way by the bodies responsible for public education.

Special textbooks and aids are produced for many of the subjects included in the evening and correspondence courses. Students of these courses receive methodological instructions concerning independent work.

During the examination period, preparatory lectures on all the main subjects are given for the benefit of correspondence students who intend to sit for the examinations and at the evening departments, considerable time is devoted to seminars and to laboratory and other practical work.

The system for the improvement of teachers' qualifications

A system for improving teachers' qualifications through special institutes in each region, territory and Autonomous Republic and through methodological societies of teachers at the school and district levels was established in the USSR some considerable time ago.

The chief purpose of the above-mentioned institutes is to sum up and utilize valuable experience acquired by schools and to make the achievements of education available to teachers.

These institutes elaborate long-term plans for the improvement of teachers' qualifications. According to these plans, teachers are invited, at least once every four or five years, to attend a particular type of training course.

Professors and teachers of teacher-training institutes and universities, experienced teachers, principals and vice-principals of secondary

schools, and workers of public educational bodies are encouraged to work at the said institutes.

The main forms of advanced training for teachers are full-time and correspondence courses which may last for one or two years or for a shorter time. Such training is provided after working hours as well as on a full-time basis.

These courses are organized for teachers of all the main subjects, as well as for the teachers of boarding-schools, directors of studies, school principals, class superintendents and other public educational workers.

The institutes for the improvement of teachers' qualifications organize consultations on all subjects and on the main types of educational work, hold various seminars, organize practical work, provide lectures on present-day teaching problems and the various types of methodology. Through local publishing-houses, the institutes issue booklets on valuable teaching experience, methodological letters and instructions concerning the improvement of teaching.

Of late, universities and certain other higher educational establishments have been greatly assisting schools in improving teachers' qualifications and in bringing their knowledge up to date.

For example, the universities of Moscow, Leningrad, Voronezh and Saratov and certain other universities have organized science courses for teachers specialized in biology, geography, history, mathematics, physics, philology and chemistry.

These courses are organized differently. For example, at the Saratov University scientists, co-operating on a voluntary basis, meet together with the teachers twice a month in order to make them familiar with present-day scientific problems. Other universities organize seminars, symposia and practical work.

The Kiev University has regularly organized seminars for teachers of biology, mathematics, the social sciences and chemistry.

At present, the general trend is to use specialized higher educational establishments (agricultural, medicine, technology and art) on a wider scale in order to give scientific and methodological assistance to teachers of biology, physics, chemistry, and other subjects corresponding to the type of higher educational establishment concerned.

One of the most effective means of improving qualifications is self-education i.e. systematic independent study by teachers of scientific and educational literature and direct acquaintance with the work of the most experienced teachers.

Large numbers of books on educational and methodological questions are published in the Soviet Union. Special methodological magazines such as "The Russian Language at School", "Mathematics at School", "Teaching of History at School", "Pre-primary Education", etc., deal

with the theory and practice of the organizational, educational and methodological work in various fields of public education. The Ministries of Education of the Union Republics publish magazines dealing with general and particular questions relating to the organization of public education and its scientific bases. For example, the magazine "Public Education" is published in the RSFSR, "The Soviet School", in the Ukraine, "For Communist Education" in Georgia, etc.

Soviet teachers become acquainted with the basic concepts of Soviet Educational theory and psychology through the magazines published by the Academy of Pedagogical Sciences such as "Soviet Educational Theory" and "Questions of Psychology".

The magazine "Young Pioneer Leader" is published for the benefit of Young Pioneer workers ; it helps teachers in their work with Young Pioneers and school children.

An important rôle in the improvement of teaching is played by special newspapers for teachers ; these newspapers keep teachers informed of all the latest achievements in the field of teaching theory and methods and of present-day problems relating to the improvement of school education. The most popular of all these newspapers is the "Teachers' Gazette".

One of the effective means of improving the teacher's qualifications at the school itself is constituted by methodological associations of teachers of the various subjects (philology, mathematics, foreign languages) and of primary school teachers. These associations are usually directed by experienced and authoritative teachers.

The meetings of these methodological associations discuss questions concerning the methods of teaching difficult or new subjects and sections of courses, ways and means of mastering new teaching methods, and the use in teaching of visual aids and technical devices. They often discuss the so-called "open lessons" given by certain teachers, and analyse the work and methods of experienced teachers. They regularly discuss all new publications on educational, methodological and scientific questions. New State curricula, text-books and methodological aids are discussed in detail.

The rapidity with which teachers become acquainted with and assimilate new ideas and methods is illustrated by the growing interest in the methods and principles of programmed education. Urban and rural teachers in the remotest parts of the USSR participate in the creation of technical devices and teaching programmes, as shown by the numerous publications, papers and reports presented by teachers at conferences on programmed education and at educational readings.

The latter are one of the means of improving the standard of teaching : the dissemination of educational knowledge and valuable experience. These readings are organized regularly by institutes for the improvement of teachers' qualifications, by the Republican Pedagogical In-

stitutes, by the Academy of Pedagogical Sciences and by the Centre for the dissemination of educational knowledge and valuable experience.

The reports presented at these educational readings are selected by a special committee. The authors of these reports, which contain summaries of valuable experience, are awarded cash prizes and diplomas. The most interesting reports are published.

Every year, there is an increase in the number of persons participating in educational readings. For example, in 1965, over 10,000 papers were submitted for the central educational readings of the RSFSR and approximately 3,000 of them were selected.

All the district and urban departments of public education have methodological units which organize exchanges of experience between teachers of a particular region who are specialized in separate subjects, assist school methodological associations, prepare district scientific and practical conferences, and take an active part in teachers' congresses which are held in every district before the beginning of each academic year.

Such congresses are usually held in August. They have become a tradition for Soviet schools and are a very good organizational mode of preparing teachers for the coming academic year. At these congresses, teachers listen to instructive reports made by the directors of public education departments; the most outstanding teachers share their experience, discuss new tasks and the means of executing them in the academic year concerned and under the conditions existing in the district concerned.

Educational societies in the RSFSR, Georgia, the Ukraine, Kazakhstan and in other Republics of the Soviet Union play an important rôle in the dissemination of new educational ideas as well as knowledge concerning the progress of educational theory and the experience of outstanding teachers. According to the statistics for 1966, the Pedagogical Society of the RSFSR had some 228,000 members; the latter are scientific workers in the field of educational theory, school-teachers, teachers of higher educational establishments, special secondary schools, vocational and technical schools, and pre-primary institutions. The Society organizes seminars, conferences, lectures and readings of papers on present-day educational problems. The documents for these conferences and seminars, as well as certain lectures and papers, are published and are thus made available to a wider public interested in educational questions.

Scientific problems of teacher training

Further improvement of the theoretical and methodological standards of teacher training calls for intensified efforts on the part of research workers in this field.

What questions relating to teacher training require scientific elaboration ?

1. Scientific elaboration of principles governing specialization in education

The planning and organization of teacher training should have a scientific basis. It is not sufficient to know in what subjects teachers should be specialized : it is also necessary to determine scientifically what functions are performed by the teacher at school ; it is only on this basis that it is possible to define the requirements that should be met by teacher-training establishments.

There now exists a new approach to the elaboration of principles governing the training of specialists in the field of public education such as inspectors, and methodologists of public education departments, school directors, boarding-school teachers and supervisors of out-of-class and out-of-school activities with children.

The nature and content of the training of primary school teachers requires a more elaborate basis. In the USSR, different opinions are expressed on this subject. Some consider that primary school teachers should be trained at teacher-training schools, while others insist that they should be trained at special departments of teachertraining institutes.

It is necessary to make a careful study of all advantages and disadvantages of training primary school teachers at teacher-training schools or at teacher-training institutes and to define clearly the subjects in which teachers should specialize. In our view, they should specialize in the psychology and educational theory of primary education.

2. Questions concerning the economic aspect and planning of teacher training

The scientific elaboration of questions concerning the economic aspect of public education and the planning of teacher training concern both economics and educational theory. Today, the combined efforts of specialists in these sciences and of planning organizations should be directed towards the elaboration of scientific principles for determining the required number of teachers, the planned distribution of a network of teacher-training establishments throughout the country, the creation of the most economical and pedagogically effective structure for teacher-training institutions, and the establishment of rational limits and standards with regard to the equipment and financing of such institutions.

3. Elaboration of scientific principles for the preparation of the curricula and syllabuses of teacher-training establishments

The training of teachers at teacher-training establishments is provided mainly in the form of three courses : special, educational and social. Each of these courses has its own logic which, however, is closely

bound up with the logic and system of the educational process as a whole. For example, it is impossible to decide correctly the question of the best system of teaching practice without linking up this question with the entire system of educational and special courses.

The curriculum cannot mechanically unite separate subjects and types of student training for school teaching. It should be elaborated on the basis of strictly scientific principles with due regard to all the scientific educational and methodological relationships between its component parts. In other words, a curriculum theory is necessary as well as scientific principles for its preparation.

An exceptionally important rôle is played in teacher training by specialization, which implies that the teacher should have a thorough knowledge of the subject he will teach at school and also be abreast of all the most recent achievements of science.

On the basis of the experience acquired in respect of the special subjects taught at teacher-training institutes, it is necessary to ascertain scientifically how the contents of the courses at higher teacher-training establishments should be co-ordinated and closely interrelated with the subjects taught at schools, without lowering their theoretical level. The scientific principles taught at schools should not be regarded as mere elements of the various sciences ; they have their own specific nature in comparison with the developed branches and most recent achievements of science.

Further study should be made of professional educational trends in the teaching of special subjects at teacher-training institutes.

4. The content and methods of studying educational subjects at higher teacher-training establishments

This raises a number of problems requiring a broad discussion on a scientific basis. These problems include : the order in which educational subjects should be studied ; the co-ordination of the courses in the history and theory of educational science ; educational science and methodology ; the integrality and unity of the processes of education and instruction, and the exposition of their nature by certain sciences ; the unity of the theoretical and practical training of educational subjects ; ways and means of teaching students to study and sum up the experience acquired in school work.

There is still no co-ordination between teacher-training courses and child and educational psychology. Educational theory cannot convincingly expound the principles of child education without the help of research on child and educational psychology, while the latter cannot develop except in relation to the concrete tasks entailed by the education of the rising generation. During the last few years, psychologists have carried out a number of important scientific investigations showing the principles governing the pupils' assimilation of knowledge and the development of their awareness and behaviour.

These investigations enrich both psychology and educational theory. Educational workers have begun to give much greater attention to the psychology of education. All this brings educational theory and psychology closer together but, in its turn, creates a much greater need for the co-ordination of the curricula and the synthesizing of knowledge in these two fields of science.

Students should be given wider instruction in the methods of educational research. The development of educational theory largely depends on the participation of school-teachers in this type of work. The schools themselves can successfully resolve the problems with which they are confronted only if teachers work creatively, constantly improve their teaching and seek after the most effective teaching forms and methods.

To be able to train students for extensive methodological and research work at school, it is necessary to develop in every possible way the work of scientific circles, student scientific societies, research seminars, and special courses.

5. Teaching practice

Teaching practice is of fundamental importance in teacher training. Unfortunately, the vast experience of teacher-training establishments in this field has not been sufficiently studied and summarized. It is necessary, however, to elaborate carefully the content and methods of teaching practice and to establish a scientific and tried system whereby such practice may be organized and guided by the corresponding teacher-training institutes and schools.

What questions relating to teaching practice require study and methodological elaboration?

They include questions such as the co-ordination of the content and methods of teaching practice and laboratory work on pedagogical subjects, the forms and methods of guidance in the matter of teaching practice, the creation of teaching and methodological aids for teaching practice and methods of studying the experience acquired in school work.

6. Questions concerning the improvement of teaching at teacher-training establishments

The quality of teaching at higher teacher-training establishments is determined by many factors including the organization of teaching, the teaching methods used and the independent work done by students.

The organization and methods of teaching at higher educational establishments differ substantially from those adopted at secondary schools. It was not by pure chance that K. D. Ushinsky drew attention to the narrowing of the bases of didactics during the transition

from a lower to a higher stage of education. This does not mean, however, that methods of teaching at higher educational establishments should be rejected. The heart of the problem resides in the fact that teaching methods at higher educational establishments as compared with those used at secondary schools, are more closely linked up with the very content of the courses provided.

The most important questions which concern the organization and methods of teaching at higher teacher-training institutes and which call for scientific research include: the co-ordination of theoretical and practical teaching, methods of organizing lectures, practical work, laboratory work and seminars, the improvement of the methods of testing and assessing the knowledge of students, the use of technical devices in education, the improvement of the forms and methods of independent work by students, the organization and methods of guidance of research by students, the forms and methods of educational work with students.

7. The links between teacher-training institutes and secondary schools

The question of pilot and experimental schools attached to teacher-training institutes must be formulated anew and resolved.

Teacher-training institutes need pilot and experimental schools for research by their educational and methodological departments and for the purpose of encouraging students to undertake such research.

To be able to carry out these measures, it is necessary to elaborate the content and forms of the scientific and methodological work done at these schools by teacher-training institutes.

The formulation and solution of the problem of higher teacher training should be achieved through the combined efforts of educational methodological and other special departments.

TEACHER EDUCATION IN THE UNITED STATES

Robert J. SCHAEFER

Teacher education in the United States, and undoubtedly in other countries as well, is more profoundly affected by shifts and developments in the wider intellectual and social world than by any changes, no matter what their magnitude, in educational theory and teaching techniques. Current practices in the preparation of teachers, therefore, cannot be understood without references to such external influences as, to cite only a few, the teacher shortage of the fifties and early sixties, the post-sputnik anxiety about how well our schools were doing, the efflorescence in the behavioural sciences, the so-called explosion of knowledge in all fields, and the concentration of educationally disadvantaged children in the central cities. While this paper will, as commissioned, attempt to illuminate the professional preparation of teachers, the source of light, even if indirect, will more frequently be found in broader social developments than in recent advances in educational theory.

Once it is assumed that teacher preparation reflects changes in the broader world, any attempt to outline recent trends and developments inevitably becomes arbitrary and partial. It is hoped, however, that the factors to be enumerated and discussed below are at least germane to the problem.

1. Demise of separation in teacher education

Throughout the Nineteenth and for the first one-third of the Twentieth century, teachers of the elementary schools were educated in separate institutions specifically organized for this single purpose. As has been true in other parts of the world, these isolated institutions tended to be vocational in orientation, under-financed, attractive to a limited range of students, and somewhat defensive about their second-class ranking in the prestige hierarchy of American higher education. The primary emphasis of the separate normal schools and teachers colleges tended to be on process — the processes of teaching, of learning, of communication, and of growth and development. Particular stress was placed on the teacher's responsibility for understanding the child, for motivating him, for guiding his growth, and supervising his learning. While it was conceded that the prospective teacher needed some knowledge of subject matter, more or less adapted to

the level he planned to teach, his fundamental requirement was thought to be control of the art and science of communication.

In the colleges and universities, on the other hand, it was assumed that successful teaching is primarily dependent upon mastery of the substantive content to be taught. The person who knows something thoroughly, so the ideology held, can easily teach it especially if he is a "born teacher". Pedagogical tricks and techniques, to the degree they are important at all, could be learned, it was felt, more or less automatically during the first years of teaching.

In the years between the two world wars, the physical basis for this dichotomy of view concerning the proper preparation of teachers slowly eroded. The normal schools became four-year teachers' colleges and then gradually general purpose collegiate institutions. Professors committed to teaching and inquiry in the academic disciplines were appointed to their faculties. At the same time, more and more departments and schools of education were introduced into established colleges and universities. Fewer and fewer teachers, therefore, were prepared in isolation from their peers pursuing other vocational and professional goals.

None the less, the rift between liberal and professional educators grew steadily wider. The State colleges, while still somewhat bound by their normal school past, began to exercise some responsibility for the training of secondary school teachers. Faculty members in schools and departments of education assumed increasingly unilateral control over the total education of prospective teachers and sometimes encouraged students to "major" in education rather than in one of the academic fields. Licensing or certification requirements, including strictures concerning professional training, were established for secondary school teachers thus extending the influence of those holding professorships in education. Finally, the further broadening of the high school curriculum to include an ever greater proportion of studies outside the traditional liberal fields helped to weaken communication between scholars interested in the secondary school and those concerned with the college.

In the early fifties, the rift widened still further and overt hostilities erupted. During the immediate post-sputnik period, criticism of American public education and of educationists responsible for teacher preparation was delivered so frequently as to risk satiating even the most avid audiences. Predominantly, criticism took the form of assessing blame for the presumed failure of our schools to prepare scientists capable of out-manoeuvring the Russians in space. It was ordinarily assumed that problems could be basically resolved if only educationists would stop being anti-intellectual and would admit that the primary purpose of schools should be the cognitive development of students and the primary emphasis in teacher education, the development of sound scholarship in the teaching field.

The same themes were reiterated again and again — greater emphasis upon science and mathematics, more intensive and more continuous study of foreign languages, higher standards in written and spoken English, and, more generally and most insistently, the creation of a school which consistently emphasized intellectual training. The tone of the criticisms varied considerably. We had the soothing basically-we're-doing-rather-well analysis of James Bryant Conant in the **American High School Today** and in **Junior High School**. We had brilliant polemical denunciation from Arthur Bestor in **Educational Wastelands** and in **The Restoration of Learning** and a kind of waspish anger from Admiral Hyman Rickover in **Education and Freedom**. Mortimer Smith contributed an illustrative diatribe against life adjustment education in **The Diminished Mind** and Albert Lynd added an anecdotal repertorial touch in **Quackery in the Public Schools**. But aside from the temper of their remarks, there was an underlying consensus as to what was wrong and considerable unanimity in assuming that desired improvements could be brought about with relative ease.

The critics seemed to be convinced that the schools and the teachers were naturally "good". Once the sources of contamination — the "interlocking directorate" of professors of education, the school administrators they trained, and the State departments of education that required their courses for teacher certification — could be eradicated, the schools would quickly regain the healthy glow associated with the cultivation of the intellect.

Criticism of the anti-intellectual mission of the schools was closely entwined with grave suspicions about the mental capacities of professors of education and the intellectual demands of the courses which they taught. James Koerner insisted, for example, that "the intellectual calibre of the education faculty is the fundamental limitation of the field". "The crisis in American education over the last decade," Martin Mayer averred, "was caused primarily by failures of intelligence and leadership." "Education courses themselves," Koerner reiterated, "deserve their ill repute. Most of them are indeed puerile, repetitious, dull and ambiguous-incontestably." Even the ever-polite Conant gently suggested that it might be preferable for genuine historians and bona fide philosophers to teach courses in these specialties rather than to have the history and philosophy of education offered by generalist professors of the so-called foundations of education. And when he recommended the appointment of clinical professors of education, he did, of course, imply that those currently responsible for preparation in pedagogy were not adequately handling their assignment.

Naturally this kind of public accusation about the quality of American schools and the poverty of teacher education led professional educators to respond with equal verbosity. There was much righteous talk about the "enemies of the schools". For a lamentably long period whatever practical wisdom may have survived could not be heard

above the anguished cries of the professionally wounded. This din and tumult obliterated discussion of the more fundamental question of how the schools might be restructured to achieve the increased efficiency the nation seemed to be demanding.

Happily, the present educational atmosphere seems remarkably free from the noisome rhetoric of ideological conflict. It is now a long time since that once apt phrase "academic civil war" has been voiced, and liberal and professional educators are no longer drawn up in battle lines, while protagonists in each camp hurl charges and counter-charges that somebody is anti-intellectual. Serious-minded persons no longer accept assertions that educators responsible for instruction in elementary and secondary schools are generally hostile towards the liberal arts. Similarly, few sensible men any longer doubt that the study of education can contribute to the intellectual as well as the professional development of students. For the most part, all educators - whether they are primarily students of the liberal substantive disciplines or scholars interested in the analysis of educational processes and institutions - have sloughed off the bogey man psychology of the immediate post-sputnik era and have grown weary of the pointless effort to fix blame for the existence of educational problems. Instead, the current mood seems to be one of frank recognition that all levels of the educational enterprise, from the nursery school through the colleges and the graduate schools of arts and sciences, require regular overhauling to meet new social conditions and new social needs. The job of reformation is perceived as too challenging and too fascinating to permit internal bickering to be tolerable.

Not all signs of conflict have been obliterated, of course. In most college and university faculties, it is still possible, although some probing may be required, to locate recalcitrants who cling to the old enmities. What is significant, however, is that ideological explanations of educational problems are no longer ascendant, and there is a greater sense of unity in the academic community about educational purposes and educational processes than has prevailed at any period in our history.

As is true for all wars whose cessation historians have attempted to explain, the reasons for decreased tensions among educators are difficult to describe with precision. Unboudtedly of major importance is the fact that higher education as a whole faces many of the problems of population pressure and the competition of new knowledge for a place in the curriculum which have so long beset educators responsible for instruction at lower levels. Then too, recent studies - Philip Jacob's compilation **Changing Values in College** or Nevitt Sanford's **The American College**, to name but two - have made it abundantly clear that the college as well as the elementary and secondary school does not automatically or easily achieve its humanizing purposes. It can be embarrassing to decry the alleged paucity of intellectual virtues in the lower schools when it is apparent to all that the liberal

arts critic speaks not from a towered, germ-free sanctuary, but from a general ward at least as contaminated as other divisions of the educational edifice.

More positively, the rapprochement between liberal and professional educators seems in part due to the success of co-operative ventures in curriculum revision. The new courses and materials in the sciences, i.e., those developed by the Physical Science Study Committee, the variously coloured biology projects, and the several approaches to chemistry although conceived in large degree by scientists, impatient with the ability of the schools to improve their own curricula, were established from the beginning as co-operative endeavours of educators at all levels. In a similar vein, efforts to revise curricular content in other fields - mathematics, English, and most recently the social studies - have been jointly manned. These courses have been hailed with equal enthusiasm by persons in higher as well as lower schools. They provide symbolic as well as tangible evidence of the growing unity of action among American educators.

Undoubtedly contributing to the new mood of congeniality has been the demonstration in university centres throughout the nation that representatives of professional education and the academic disciplines can effectively collaborate at the graduate level in the preparation of teachers. The relatively new, but widely adopted, fifth-year programmes leading to the Master of Arts in Teaching degree, although perhaps not quantitatively significant in training needed new teachers, have clearly shown the feasibility of a unified approach. More important than the numbers involved has been the incontrovertible evidence provided to sceptical professors in many liberal disciplines that teaching as a career can and indeed does attract students of considerable academic ability. There is perhaps nothing more powerful in modifying hostile attitudes of academicians towards teachers and towards the lower schools than providing them with exceptionally able students who have identified themselves as prospective teachers.

A similar co-operation has also developed in programmes at the undergraduate level. The old tendency for departments and schools of education to monopolize the preparation of teachers for the lower schools has given way to institution-wide Councils or Committees on Teacher Education. These Councils, composed of representatives of the substantive fields as well as methods of teaching, collaborate to develop policy and curricula and to advise students. Only a handful of institutions had such councils at the close of World War II, but by 1965 there were several hundred.

Another factor of importance in explaining the relatively cordial relations among educators is the generally increased commitment to intellectual development as the primary aim of formal schooling. A few short years ago there was a real split among educators on this point ; for many professionals, responsibility for nurturing knowledge

and understanding was only one among many equally compelling tasks of the school. No one any longer doubts (at least publicly) that although the school, with other institutions of society, naturally influences the development of personality, the choice of vocation, and even the selection of a marriage partner, it is uniquely fitted by its organization, its personnel, and its original charter to carry major responsibility for furthering intelligence.

Closely allied to this new consensus about the mission of the school is the realization that the study of education itself, if properly conceived, develops the same intellectual values and the same commitment to research and inquiry which have long characterized serious work in the arts and sciences. Pedagogy, for example, is no longer viewed as mere pontification about conventional teaching practices. When pursued systematically it exemplifies the careful observation, the patient search for relevant clues, and the continued refinement of theory which have proven so fruitful in fields as widely divergent as astro-physics, horticulture, and linguistics. Similarly, the history of education, once dismissed by general historians as naïve propaganda about the sanctity of the common school, has been in the hands of scholars such as Lawrence Cremin, R. Freeman Butts, Merle Borrowman, and Raymond Callahan, a rich and significant aspect of social and intellectual history. In other aspects of education, too, there is tremendous new vitality which makes it obvious to all that those who choose to study educational processes and institutions can and do, at least in the major universities, share the common faith in rational inquiry.

But probably of fundamental significance in explaining the demise of ideological as well as physical separation is the belated realization that in the United States the normal school exists neither as a live institution, nor, in the larger colleges and universities, at least, as an historical influence. An imagined continuing dichotomy of view and a drearily persistent rhetoric about no longer live issues beclouded for too long the fact of common preparatory programmes for teachers. In reality, the single purpose undergraduate teachers' colleges, and the overly vocational emphasis they presumably typified, have long disappeared from the educational scene¹. The initial preparation of teachers, wherever it may be carried out, is conventionally conceived as consisting of three parts: general education, specialized studies in the discipline or disciplines to be taught, and professional training for teaching. The prospective teacher's opportunity for general liberalizing experience is almost precisely the same as that of any other

¹ See, for example, Karl Bigelow, "Moving Forward in Teacher Education", in: The American Association of Colleges for Teacher Education Yearbook, 1957 pp. 13-15.

student attending college ; if the would-be teacher is not completely liberated, it is probable that his fellow classmates in other curricula remain similarly imprisoned. While institutions do vary in the quality of the faculties, in the intellectual capacity of the students with which they deal, and in the details of course content, it no longer seems rational or convincing to try to explain their differences in terms of the long-dead normal schools. Teacher education is not an isolated activity, but physically and psychologically, an integral part of American higher education.

Whatever the complete explanation, the civil war among educators has run its destructive course. One can be confident that teachers in the United States will not soon again be trained in separate institutions or in sealed-off departments and schools of education. All those in the college or university who naturally contribute to teacher preparation will have a voice in determining programmes and curricula. Faculty members in schools of education and in the arts and sciences seem finally to realize their common intellectual heritage and their shared commitment to the improvement of education at all levels.

2. Increased reliance upon the academic disciplines in teacher education

A major factor in explaining the "truce among educators" is the markedly increased reliance upon the academic disciplines in the preparation of teachers. This new emphasis, expressed in a variety of forms, has helped to build shared values and common frames of reference.

A particularly significant example of common commitment to the disciplines has been the aforementioned efforts of scholars in concert with experienced teachers to revise school curricula. All of the national programmes of curricular reform rely upon the great organizing principles which have been developed historically in the various academic disciplines. The logical structures, used to impose order upon knowledge and experience, are seen as the crucial patterns to be explored by pupils. While all of the new programmes have utilized this principle, its most articulate and most familiar spokesman has been Jerome Bruner, who has written :

"Knowledge is a model we construct to give meaning and structure to regularities in experience. The organizing ideas of any body of knowledge are inventions for rendering experience economical and connected. We invent concepts such as force in physics, the bond in chemistry, motives in psychology, style in literature as means to the end of comprehension... The structure of knowledge — its connectedness and its derivations that make one idea follow another — is the proper emphasis in education. For it is structure, the great conceptual inventions that bring order to the congeries of disconnected observations, that

gives meaning to what we may learn and makes possible the opening up of new realms of experience."²

Another instance of increased reliance upon the academic disciplines can be documented in the recent staffing policies of schools of education, particularly those at the graduate level. Through the early fifties a "generalist" approach to the study of educational phenomena prevailed. "Education" was perceived as a single and distinct field rather than as processes and institutions which require investigation through the analytical tools and conceptual modes of a number of disciplines. Faculty appointments were confined to persons who held doctoral degrees in education, either in some field of practice or in a very broad programme of "foundational" studies. In effect, and sometimes even intentionally, the "disciplinary" aspects of graduate teaching and study suffered neglect.

From the mid-fifties onward the dangers of relying on a survey approach to educational studies began to be apparent. "Education" had proved to be curiously sterile in the production of significant new solutions to the pressing problems of the schools. It became increasingly evident that the conventional academic disciplines were forging ahead in the development of new tools for, and in the application of old ones to, the educational problems of the 1950's. This was especially evident in the social sciences, and markedly so in economics, political science, anthropology, and sociology. Historians, too, were borrowing methods from the social scientists in attempting to interpret the American educational experience, and analytic philosophy promised a fresh and vigorous critique of old and hitherto accepted concepts. All of this was too valuable and potentially fruitful to be ignored in staffing decisions. Most of the new appointees have been recruited from the behavioural sciences and from philosophy, but a significant number of persons of first-rate distinction in a teaching field and interested in the pedagogical problems of their discipline, have also accepted professorships in schools of education.

In comparable fashion, schools of education now seek persons interested in the analysis of practice through the use of conceptual tools developed in relevant disciplines. In an earlier period of the history of Teachers College, Columbia University, Dean James Earl Russell assumed an inevitable dichotomy between "professionally-minded" members of the faculty interested in practice and "academically-minded" professors interested in research and inquiry. The College no longer considers such polarization inevitable. New appointees in the "professional" departments, while primarily concerned with the improvement of practice, have been equally committed to the analysis and interpretation of practical experience. We have

² Bruner, Jerome, "On Knowing," Cambridge, Massachusetts, Harvard University Press. 1962, p. 120.

sought persons of activist temperament who, far from being "non-academic", understood the practical value of working in close association with scholars in command of appropriate disciplinary tools.

There are many other manifestations of this increased reliance upon the academic disciplines. Recent changes in the certification requirements of the various States have stressed the need for depth of knowledge in the teaching field. A growing number of institutions now expect prospective elementary school teachers to develop an academic "major" as well as sufficient breadth in the liberal arts to be able to handle the diverse subjects taught at the primary level. One intent, of course, is to ensure that the teacher is provided with the intellectual leverage to be able to continue to grow as a person as well as a classroom practitioner.

3. Efflorescence of the behavioural sciences and of educational research

A closely allied factor which has already begun to affect teacher education in America, and which promises to have a profound influence in the future, has been the spectacular growth of the behavioural sciences since World War II. Economics, political science, psychology, psycho-linguistics, social psychology, sociology, and social anthropology, all fields directly relevant to the study of education, have developed more powerful conceptual schemes, more technically proficient instruments for handling data, and greatly increased capacity for prediction. Each of these disciplines, moreover, either singly or in concert, has been used with considerable success in the investigation of applied problems - i.e., voting behaviour, marketing analysis, language learning, attitude formation, leadership behaviour, etc.

As previously mentioned, many young scholars from these fields have been attracted to faculties of education and, as professors, contribute to the preparation of teachers. Possibly of greater long-term significance is the stimulus their success in investigation has provided to scholars trained in some specialized aspect of educational practice. There is a new surge of optimism both in the potential of educational research and in learning more about how children learn in actual classrooms.

With funds in the main provided by agencies of the federal government, and also by private foundations, there has been a veritable research boom in schools and colleges of education. The membership of the American Educational Research Association has expanded five-fold. The Association has itself sponsored an excellently conceived and edited **Handbook of Research on Teaching**. The Co-operative Research Bureau of the United States Office of Education has supported hundreds of individual studies in institutions throughout the land. Programmes for training new investigators have been

liberally financed in these institutions staffed by professors who are themselves engaged in productive research. The great private schools of education and several education faculties of the public State universities have developed a research capacity comparable in depth and sophistication to that enjoyed by their colleagues in the arts and sciences.

Research and development centres, closely attached to university faculties, have been established, again by federal funds, in every section of the country. A network of Regional Educational Laboratories, intended both to conduct basic research and to disseminate research findings to schools and educational agencies, have been initiated; it is anticipated that there will eventually be forty such Laboratories basically financed by public funds (at the level of two to five million dollars per year) but also able and free to attract important private moneys.

Particularly relevant to teacher preparation has been the renewed interest in the serious analysis of teaching. Research has not progressed to the point of developing viable theories of teaching, but there has been sufficiently varied and promising work to exert an important influence upon the teacher preparatory curricula of many institutions.

Behavioural science, of course, has no monopoly on the function of providing fresh perspectives on teaching. There are many modes of analysis which can be applied to the classroom. Verbal discourse among teachers and students has been studied through linguistics, general semantics, content analysis, and analytic philosophy. The "Proposal for the Revision of the Pre-Service Professional Component of a Programme of Teacher Education", prepared by the Teachers Education and Media Project of the American Association of Colleges for Teacher Education, provides a provocative outline of numerous means, not all of which derive from the behavioural sciences, of analysing learning and teaching in the classroom. On several occasions John Fischer has suggested the development of a criticism of teaching comparable to established traditions in literature and the arts - an aesthetics of the art of teaching, so to speak³. Many scholars in the field of curriculum have been attempting to utilize existential philosophy and literary insights in systematic reflection on teaching.

The commonality of all these approaches is their dependence upon rational thought and analysis. They emphasize the systematic study of what teaching is and scrupulously avoid the familiar hazards of defensiveness and tender-mindedness. Individual preparing institu-

³ Fischer, John H., "The Prospect of Teacher Education", in: *The Journal of Teacher Education*, Vol. XVI, No. 4 (December 1965), pp. 381-398; or the Annual Report Issue, 1963-1964, of the Teachers College Bulletin, pp. 1-9.

tions, depending upon the nature and special talents of their faculties, have chosen to develop alternative approaches to the analysis of teaching. What has seemed crucial is not that a particular mode be adopted but that the art of teaching be subject to vigorous continuing inquiry.

It would be overly sanguine, however, to imagine that the unparalleled growth of research capacity in education has yet made crucial differences in the preparation of teachers. The funds mustered, while substantial, have by no means been adequate to the complexities of the task. Discoveries immediately applicable to actual practice have been rare indeed. There are, moreover, several counter-trends, which will be detailed in a later section, which have reduced the significance for teacher education of much of this research development.

4. Educational technology and the education industry

Paralleling, and in part dependent upon, the development of increased research sophistication has been the growth of educational technology and the emergence of the so-called education industry. While the teaching machine was invented in the twenties and the computer and television prototypes in the years before World War II, their broad-scale application to education was not envisaged until the present period. Grounded in neo-behaviouristic psychology and energized by the impressive power of electronics, educational technology promises a veritable revolution in teaching. Every teacher is to be afforded a steady flow of ingeniously designed learning materials and every child is to be guaranteed access to experts in every field of the curriculum. The teacher is to be freed at last, it is claimed, of the aversive routines of his craft. He will be able to assign to machines the burden of dispensing information, of supervising drill activities, of evaluating informational learning, and of providing diagnostic cues about individual difficulties.

How can the degree of realism in these lovely visions of educational technology be assessed? Those convinced of an imminent electronic magic have been somewhat taken aback by the boredom children have expressed towards educational television, by the rejection of early teaching machines as mere mechanical page turners, and by the inability, to date, to demonstrate any pedagogical advantage of computer-assisted instruction over plain ordinary teachers. In the main, however, the enthusiasm of the converts has hardly been dampened, and educational literature continues to abound with roseate promises. Undoubtedly, what makes the feasibility of educational technology most persuasive is the fact that it is backed by the corporate wealth and power of American industry.

The financial section of **The New York Times** of 6 February 1966, featured resumé accounts of the developing education industry - the

merger path of the heretofore divergent fields of electronics and of publishing. One reporter, William D. Smith, explained the mating of seemingly mismatched corporate bedfellows on the basis of a common sensual urge for profits. "The realization," he maintained, "that there is a symbolic relationship between publishers, as sources of information, and electronics concerns, as handlers of information, has set off the present scramble for post position in the race for a probable multi-billion dollar prize."

Other articles reminded readers of the mergers which had already taken place, for example, International Business Machines' acquiring of Science Research Associates ; the Raytheon Corporation's assimilation of D.C. Heath ; and the Xerox Corporation's purchase of the Wesleyan University Press. Earlier newspaper coverage had described the establishment by Time Inc. and the General Electric Company of a jointly owned subsidiary to produce educational materials. Subsequently, the former Commissioner of Education, Francis Keppel, agreed to serve as Chairman of the new subsidiary, the General Learning Corporation. A few weeks later the Columbia Broadcasting System announced its plans for invading the educational field in combination with Creative Play Things, Inc. Many other publishers, some of them successfully wooed, have reported that they, too, have been approached with merger proposals from electronics executives.

The economic power of this newly organized education industry tends to make believers of even the most sceptical among us. The massing of corporate wealth and technical competence to provide information and materials for students across the land is an awesome development. Combining editorial materials and electronic technology in a systems approach to educational problems is an inherently exciting business. While we in professional education have been duly impressed, we have only begun to adjust (perhaps we don't really believe in electronic miracles) to technology's potential impact.

To some degree, current evidence of this educational industrial revolution may be found in schools and teacher preparatory institutions throughout the nation. The performances of teachers in micro-teaching situations or in live classrooms are recorded on video-tape for later analysis. Language laboratories, replete with all manner of feedback devices, operate in thousands of schools. No self-respecting school system, at least those in the relatively well-financed suburbs, is without its full quota of gadgets - tape-recorders, overhead projectors, transparencies, television receivers and cameras, 8-millimetre film loops, automated self-learning devices, access to, if not always ownership of, a computer, etc. In a handful of actual schools, computers are in daily use in important areas of the curriculum. Few teacher preparatory programmes fail to make at least passing reference to the "xeroxed" world of tomorrow.

Essentially, however, we in teacher education have simply made token acknowledgement of the possibilities of educational technology. We have played with the new electronic toys, but we have not systematically examined what they may eventually mean. The technological revolution has not yet forced our action, because, to date, the development of gadgetry far outstrips the necessary concurrent manufacture of curricular materials - the information and concepts to be fed into the machines. This production imbalance, referred to with irritating frequency as the gap between "hardware" and "software", allows most schools to continue operations in the old familiar style. Teachers, similarly, may yet be, and indeed usually are, prepared with only a cavalier nod toward the General Learning Corporation or its counterparts.

Until production schedules are smoothed out, then, there is still opportunity to plan alterations in teacher education and, perhaps more important, to reconsider aspects of the teacher's rôle in the classroom. There is little evidence, however, that this lead time is being profitably used for such planning purpose. A later section of this paper will describe some of the questions and issues which must eventually be faced.

5. New patterns of staff utilization

Another factor significantly affecting teacher education, particularly since 1964, has been the development of new patterns of staff utilization. Schools at both the elementary and secondary levels have sought to increase their effective teaching forces by employing para-professionals as teacher aides and to utilize existing instructional resources more effectively by organizing teachers in co-operating teams. The motivations for such changes in staff deployment have been varied as have the utilization patterns which have emerged.

Teacher aides have been employed, ordinarily on a part-time basis, for many specific purposes, but essentially they are expected to relieve the full-time teacher of the time-consuming, but not professionally demanding, routines of his craft. Aides may work as clerks - keeping attendance or recording grades, marking papers, mimeographing instructional materials prepared by the teacher, etc. They may also serve as instructional assistants - supervising drill activities, responding to difficulties experienced by individual children, or, if they have specialized skills in language usage, reading and correcting themes and papers for English classes. They may work with an individual teacher, with several individual teachers, or with a teaching team.

"Team teaching", as it has been defined by Shaplin and Olds, "is a type of instructional organization, involving teaching personnel and the students assigned to them, in which two or more teachers are

given responsibility, working together for all or a significant part of the instruction of the same group of students." ⁴ It is intended as an alternative to the traditional assignment of one teacher to one class. Ordinarily, team teaching has involved varying-sized pupil groups for varying kinds of instructional tasks - large assemblages of one hundred to two hundred pupils to hear lectures or to observe demonstrations, seminar-sized groups of a dozen or so to explore the relevance of particular content, and individual or two or three-person groups to diagnose learning difficulties or to develop individual projects. Teams have been organized in both a hierarchical form (master teacher supervising the work of varying levels of senior teachers, beginning teachers, and interns) and on a collegial basis (persons of equal status working together).

Team teaching has rapidly assumed the dimensions of a major educational movement. Starting with a few pilot projects in 1956 and 1957, the movement spread to several hundred communities distributed widely throughout the country, and there are not yet signs of any cessation of this rapid growth. A number of major universities participated actively in the early development of team teaching and a high level of professional interest, both pro and con, continues to be expressed in meetings organized for the description and analysis of team teaching at local, state, and national conferences of teachers, supervisors, administrators, and school board members. In many communities programmes have progressed far beyond the experimental stage and include the reorganization of entire schools, the spread of teams throughout the school system, and even the construction of school buildings designed to meet the requirements of the new programmes.

There are many factors which explain this rapid development. Some have seen in team teaching a viable means of meeting the teacher shortage which has so plagued boards of education in the post-war years. Teams of professional teachers, especially when assisted by various part-time technicians, give promise of influencing more pupils than the same number of teachers working in isolated individual classrooms. Others have viewed team teaching as a means of attaining a more rational division of labour among teachers. From this perspective, team members are expected to serve as technical specialists both in aspects of pedagogy - lecturing, leading discussions, supervising drill, evaluating pupils, etc. - and in aspects of the curriculum. Still others have heralded team teaching as a means of creating new status rôles for teachers, i.e. master teacher, team leader, assistant teacher, and intern, which would provide broadened career opportunities. Some teacher educators have been attracted to team

⁴ Shaplin, Judson T., Olds, Henry F., eds., "Team teaching", New York, Harper and Row, p. 15.

teaching as a device for relieving the physical and intellectual isolation of teachers in sealed-off classroom cubicles. In short, a major reason for the dramatic spread of team teaching has been its loose definition and its consequent capacity for attracting a wide range of support.

There has as yet been little effort to assess the effectiveness of teaching teams whatever their organizational form. A number of investigations have been conducted, however, which make gross comparisons of pupil learning under teams as opposed to individual teachers. The evidence to date clearly fails to substantiate the hopes of those who assumed that pupils would tend to learn more if taught by groups of teachers⁵. An interesting finding, however, and one that keeps turning up in the research literature is that teachers tend to prefer team arrangements. Whether this preference is simply another instance of the Hawthorne effect or a genotypical phenomena remains to be seen.

It is not yet possible, then, to make an objective assessment of the long-term importance of team teaching for teacher education in the United States. To date, none the less, pre-service programmes in numerous colleges are being revised to prepare prospective instructors for the new associations and new responsibilities which team membership entails. Of even greater potential importance is the in-service educative effect of team organization. To the extent that team teaching encourages collegial association, provides expanded opportunities for investigation and experimentation, and adds para-professionals to free career teachers for basic intellectual work, it could make the school a centre of education and inquiry for adults as well as for pupils.

6. New patterns of school-university collaboration

Traditionally, teacher education in America has been planned and managed unilaterally by colleges and universities. The lower schools have been viewed as passive employers of whatever teachers the college deigned to prepare. Rarely have the schools been privileged to participate in the development of programmes and curricula for teachers still in training.

There have been notable exceptions of course. The Dewey School at the University of Chicago during the years 1896 to 1904 served as a valued source of ideas about teaching as well as a laboratory for testing practices developed by university professors. Other university laboratory schools, notably the Ohio State University schools and the

⁵ Dundee Team Teaching Project, Greenwich, Connecticut, "A Research Report", prepared by the Institute of Field Studies, Teachers College, Columbia University, February 1965.

Horace Mann-Lincoln School of Teachers College, Columbia University for a time profoundly affected the education of teachers. Many of the practice schools affiliated with normal colleges, particularly when the college curriculum consisted primarily of the systematic mastery of what was taught at lower levels, naturally played a significant part in teacher education. The practice schools were ordinarily captives of the colleges, however, and were not part of the public school system. Similarly, the university laboratory schools tended to become special schools for the education of faculty children rather than centres of experimentation influencing teacher education curricula.

The public schools, of course, have long participated physically in the preparation of teachers by accepting student teachers and interns. Ironically, however, apprenticeship arrangements, while almost universally accepted as the most important segment of teacher preparation, have rarely been grounded in systematic school-university collaboration. The colleges have assigned student teachers to individual teachers willing to accept them but, ordinarily such arrangements have involved not interinstitutional planning but simply a personalized apprenticeship under a single teacher. The supervising teacher has usually been invited to judge the instructional skills of his apprentice, but such estimates have been used to evaluate the individual student-teacher rather than the system which produced him. In many cases the supervising teachers were provided little or no foreknowledge of the apprentice's competencies in his teaching field or in pedagogy. Typically, the student teaching experience has been divorced from instructional theory, unaccompanied by serious and concurrent analysis of the teaching act, and unrelated to either previous or continuing collegiate studies.

The casual and personalized arrangements which have normally obtained for apprentice teaching have also characterized school-university relationships in other areas. Rather than systematic joint study of professional problems on an institutional basis, the more frequent pattern has been individual professors of education providing personal, sporadic, and often merely hortatory advice and consultation to particular schools. When schools of education as a whole have developed contractual relations with school systems, it has ordinarily been for a one-shot survey rather than for a long term, continuing investigation of important educational questions. In short, the lower schools and the schools of education are organized as autonomous units and relations between them have been rarely productive.

During the last few years, however, and particularly since the late fifties, there have been signs of more viable school-university co-operation. Basically, the trend toward more effective working relationships is to be explained as a part of the general response to public concern about the quality of education. The introduction of team teaching necessitated, at least during the early stages of the move-

ment, school-university collaboration to institutionalize the new instructional arrangements. With its emphasis upon the signal importance of student teaching, the Conant Report on **The Education of American Teachers** stimulated interest in more rational school-college partnerships. Private philanthropic groups, notably the Ford Foundation, urged closer agreements for internships and for many types of educational innovation. The United States Office of Education, by providing funds for research and development centres and **Regional Educational Laboratories**, similarly sought to strengthen co-operation among various levels of educators.

At Teachers College, Columbia university, the Metropolitan School Study Council, although its founding antedated the more general movement, established one pattern of continuing relations with groups of schools. The Harvard School-University Project for Research and Development - known by the acronym of SUPRAD - and the University of Chicago's Midwestern Administration Center represented similar attempts to institutionalize co-operative arrangements. In many state universities older Field Study Bureaux, which have long provided surveys and studies on an *ad hoc* basis, are in process of reformulation into agencies capable of continuing work with member schools.

Today the need for the further development of school-university collaboration is universally recognized. The American Association of Colleges for Teacher Education, through its subcommittee on School-College Relations in Teacher Education Relationships and Teacher Education, has published several reports on the subject. New visions of the teaching career, based upon repeated university study and concurrent university review of school practices, are frequently publicized. A Joint Committee on State Responsibility for Student Teaching, sponsored by the National Education Association and the National Commission on Teacher Education and Professional Standards, has prepared a widely-distributed statement on "A New Order in Student Teaching". The Committee, reflecting the new concern for co-operative planning, states :

"The new student teaching should be a creative, fulfilling experience and at the same time provide for critical analysis in order to make student teachers and their supervisors scholars of teaching. It should not be confined to a block of time at the end of the senior college year. It should range from simple observation, to brief exposures with learners, to the development of skills and discrete elements of the teaching act (e.g. through micro-teaching), to analysis of personal skills and insights, all the way to the teaching of regular classes under the analytical eye of a professional mentor. It should be a study of teaching in various clinical situations. This new concept of student teaching demands new arrangements, revised administrative structures, and new systems of control. There needs to be a new order in student teaching."

Here and there in professional literature can be found more radical proposals for school-university collaboration. In a long review of a book edited by John Knowles, **The Teaching Hospital : Evolution and Contemporary Issues**, Arthur Bolster has attempted to draw a detailed

analogue from medical experience and to compare induction procedures used with young teachers to those employed in medical education.⁶ In my own **The School as a Center of Inquiry**, written for the John Dewey Society, I have tried to visualize a school characterized by a search for knowledge and the spirit of intellectual adventure. Inevitably, such a school, if realized, would be heavily dependent upon access to the resources of the university.

What has in fact occurred, however, is not so much an attainment of an ideal school-university partnership, but a new consensus about the necessity of restructuring the relationships. The new patterns which have emerged are promising. More important perhaps is the current evidence that the effort will continue.

The six factors described above - the new unity among liberal and professional educators ; increased reliance upon the academic disciplines ; the growth of educational research, the emergence of educational technology and the education industry ; the building of new forms of co-operation between schools and colleges ; and the appearance of new patterns of staff utilization - exert a pervasive influence upon teacher education in the United States. It would be highly misleading to imply, however, that these developments operate in a smooth and unimpeded fashion. There are many limiting and opposing currents which condition the rate, direction, and evenness of flow of the general drift. Among these counter currents are the following :

A. Inadequate staffing of teacher education programmes

While the major public and private university schools of education and many well-financed colleges have strengthened and expanded their faculties by recruiting scholars to the study of education who were trained in an academic discipline and by appointing experienced educators committed to the analysis as well as the dissemination of practice, a large number of teacher preparatory institutions have continued to depend upon one or two man departments of education. There are approximately 1,500 colleges and universities engaged in the training of teachers ; unfortunately, many have neither the finances nor the facilities to mount reasonably staffed professional programmes. In such institutions the harassed professor of education is forced to be a generalist, offering state-required certification courses in psychology, history and philosophy of education, the school as an institution, teaching methods, and supervised student-teaching. His necessarily limited competence in some areas cannot be forever hidden from his more specialized colleagues in the arts and sciences. Neither can such a teaching schedule allow the continued contact with a discipline which might nourish his performance as a professor.

⁶ Bolster, Arthur S., "Harvard Educational Review", Vol. 37, No. 2 (Spring 1967) pp. 273-281.

Under such circumstances the academic civil war continues as a local skirmish and the professional preparation of teachers remains devoid of disciplinary enrichment.

In the early fifties the American Association of Colleges for Teacher Education and allied educational associations created the National Council for the Accreditation of Teacher Education. This agency has not yet developed either the strength or the cohesiveness to deal with poorly staffed teacher preparatory programmes. Neither have we produced sufficient numbers of recently trained professors of education to meet the rapidly growing staffing needs of American colleges. Adequately trained college professors in all fields, including teacher education, will continue in short supply for at least another ten years.

B. The teacher's isolation from educational inquiry

While the increased power and precision of the behavioural sciences and the concurrent efflorescence of educational research have created quite a stir in the general academic community, prospective and practising teachers in the lower schools have rarely participated in the excitement. In the first place, as many observers have pointed out, teaching normally attracts persons of humanistic and literary as opposed to scientific outlook. "One of the great hazards of the teaching profession," Judson Shaplin, for example has contended, "is the selection into teaching, by the culture, of non-quantitatively oriented people. Graduates of liberal arts colleges coming into teaching pride themselves on their humanistic, non-quantitative, non-behavioural aesthetic values."⁷ And if typical student fear of and distaste for measurement and statistics, a familiar phenomenon on many campuses, is recalled, his admonition seems well founded.

In addition to this presumed dislike for quantitative thinking, prospective teachers, interested in the here and now problems of the classroom, discover that study in the behavioural sciences often deals with questions and with settings which lie outside the direct concerns of educators. Usually, it is not the already-discovered information reported in particular courses that is important, but rather, the concepts and theories of the social sciences which afford valuable ways of viewing the world of the school. Or, as Ralph Tyler has expressed it, "the behavioural sciences contribute less in the nature of research findings than they do to the development of conceptualizations useful in thinking about problems of education and in conducting inquiries about these problems, and to the invention of techniques useful in

⁷ Shaplin, Judson, "Practice in Teaching", in Elmer R. Smith, ed., *Teacher Education: A Reappraisal*. Harper and Row, New York. 1962, p. 103.

conducting educational inquiries."⁸ Teachers are best trained, as W.W. Charters has pointed out, not in the « meager technology drawn from research findings but in the rich and varying perspectives offered by social science concepts."⁹

But the most impenetrable barrier to teachers sharing in the university enthusiasm for educational research is the nature of the school itself. Schools exist as places of instruction for the immature and not as laboratories where adults may investigate problems of pedagogy. Teachers are expected to teach all day - to disseminate information and skills which society deems desirable - and not to raise questions about how their work might be more efficiently and successfully undertaken. Schools are organized to provide intellectual training for children and not to afford continuing intellectual experience for adults. Teachers are conceived as attendants servicing educational distribution centres and not as producers of new knowledge.

The very isolation of teachers in walled-off classroom cubicles encourages the conception of the replaceable cog in a massive bureaucracy. Because of the spatial circumstances which govern practice of their craft, teachers are in fact all sergeants in the same army, equal in power and in influence, each sovereign in his classroom kingdom, and each carrying essentially equal responsibilities. On the one hand, the physical separation of one teacher from the other, together with the inordinate fullness of the teaching schedule, preclude the development of real collegial relationships and of productive professional discourse. At the same time, the privacy of the teacher's world, especially when there is reason to suspect the adequacy of his instructional decisions, goads the administration into seeking to ensure some modicum level of performance. Hence, detailed regulations, myriad forms, standardized texts, and frequent supervisory visits become routine.

Looked at from another perspective, of course, this ability to close the classroom door to other adults protects the teacher from excessive supervisory control. He does, by the fact of his isolation, enjoy a kind of autonomy. In such matters as personal pedagogical style, the amount of energy he invests in lesson preparation, and his individual relations with students the teacher is free to behave as he chooses. As long as he maintains a degree of disciplinary control over his charges, and his physical isolation is not broken by noticeable noise or disturbance, he is ordinarily left alone by both fellow teachers and administrators. An unpublished study by Lawrence Iannaccone

⁸ Tyler, Ralph, "Applications of the Behavioural Sciences," in Smith, ed., op. cit., p. 43.

⁹ Campbell, Roald ; Charters, W.W. ; Gragg, William ; "Improving Administrative Theory in Practice : Three Essential Roles," in Roald Campbell and James Liphm, eds., *Administrative Theory as a Guide to Action*, Chicago, University of Chicago Press, 1960, p. 180.

and Warren Button, sponsored by the Co-operative Research Bureau, suggests that skill in classroom management tends to be overvalued because its absence is the one pedagogical failure which becomes visible to one's colleagues.

But this kind of instructional freedom, which Lortie defines as "the autonomy-equality pattern," should not be mistaken for developed professional authority. The texts, syllabi, length of sessions, assignment of students, and judgement of teaching success are all controlled by outside supervisory personnel. The fact that teachers are expected to teach all day, the predominantly vocational emphasis of teacher-education programmes, and the lack of an analytical, inquiring tradition effectively preclude the development of authority based upon exclusive command of a body of professional knowledge.

Taken together these factors explain the school's profound lack of concern for the serious investigation of pedagogical strategies; for it is primarily in colleges and universities, not in the schools themselves, that interest in scientific investigations of teaching has dramatically increased. The publication of a number of reviews of educational research, the spectacularly increased if still modest budget of the Co-operative Research Bureau, the push for systematic classroom analysis among curriculum specialists, and even the appearance of well-financed Research and Development Centres have created little interest among practitioners. The language, tools of inquiry, and the conceptualizations employed in investigations of teaching are professionally shared by psychologists, social psychologists, and specialists in educational research and almost not at all by teachers.

Instructors in the lower schools ordinarily do not possess a working technical vocabulary or a set of concepts and propositions on teaching sufficiently precise to be shared in professional association. The absence of codified knowledge shared by teachers robs them of the psychic rewards associated with expertise in the advancement of knowledge. A practitioner feels removed from the activities of educational research and rarely perceives himself as having any stake in its development. Fully occupied with the daily business of keeping school, he is effectively deprived of the opportunity to reflect systematically upon his experience. And unless typical organizational patterns are radically restructured and school objectives broadened, there is little possibility that the situation can be improved.

It seems plausible to hypothesize, however, that the prospective teacher's apparent indifference towards the systematic analysis of human behaviour stems more from its apparent lack of utility in the real classroom than from any inherent unattractiveness. As matters now stand, courses in measurement and statistics are ordinarily required for decorative purposes alone, for a semi-fraudulent academic respectability rather than for any opportunity to use the knowledge in actual school situations. Many social scientists testify that they themselves only mastered problems in handling data as the specific

need became real in their own research. If scholar-teachers were afforded opportunity to inquire into pedagogical questions, the presumed fear of quantitative thinking might well disappear. Whitehead's old lament about inert ideas and his positive faith in the teachability of useful knowledge are reassuring.

As of this date, however, it must be recognized that the efflorescence of educational research has more profoundly affected collegiate faculties of teacher education than prospective or practising teachers. To some degree, of course, the new professorial attitudes have been adapted by teachers in training. In similar fashion, there are schools scattered throughout the country which begin to encourage teachers to investigate and to test their own pedagogical behaviour. The potential importance of educational inquiry to teacher education is tremendous ; the realized significance is as yet trivial.

C. The uncertainties of the "xeroxed" world of tomorrow

The eventual impact of educational technology upon the professional activities of the teacher and hence upon his preservice and inservice education, remains as much in doubt as the yet to be realized influence of educational research. A variety of issues are currently under discussion.

There are, for example, those who contend that the motives of the education industry, as a creature of bureaucratic profit-seeking corporations, cannot be trusted. Paul Goodman has voiced this kind of concern in a recent seminar at the Harvard university Graduate School of Education.

"We cannot disassociate the intervention of these industries into education from their general behaviour in economic, technological, and political life. By and large their behaviour is motivated by the aggrandizement of their spheres of activity, for profits and power and to be busy and important. Everywhere we see an abuse of technology - in communications, in transportation, in urban affairs, in foreign aid, and (not least) in the horror of our neo-imperialism. The right use of technology is to simplify the environment, not clutter it ; to provide necessities and conveniences, not gimmicks ; to tailor itself modestly to human functioning, not to overbear it and strait-jacket it. None of this proper use is apparent in the general behaviour of these corporations, nor in the government that subsidizes them. I do not give them the benefit of the doubt in education." ¹⁰

An even more devastating criticism is that the education industry is founded not upon painstakingly developed scientific knowledge, but on slick packaging of old and unreliable notions. "There has been no cautious analysis and experimentation over many years," Goodman asserts. "It is not as with DNA or quasars where, because of technical

¹⁰ Goodman, Paul, "Discussion : The Education Industries," in : Harvard Educational Review, vol. 37, No. 1, (Winter 1967), p. 107.

advance, we have new data and new theory ; rather, some faddish rehashing of old ideas suddenly gets enormous capitalization." Research results, others have averred, are far too meagre and contradictory and new theories of learning and instruction yet too partial to serve as a sound base for educational technology. Hence, whatever potential power may exist in computer-assisted instruction, programmed instruction, and individualized instruction must await clearer conceptions of how to plug it in. "We're increasingly aware," says Professor Patrick Supes, "that if we are to develop a capacity for real individualization, we have to face the tough question : "What do we know about individualizing ?" The answer is damned little. Our technological capacity is far ahead of our knowledge."²²

That we do not yet have an effective theory of instruction has been made more than ever obvious by the recent Coleman Report. This study, of course, did not directly investigate pedagogical theory, but provided a large-scale sociological analysis of the results of education among 600,000 children in grades one, three, six, nine, and twelve in some 4,000 schools in all the fifty states and the District of Columbia. It focused on the results of education by measuring those areas of knowledge and achievement most necessary for further progress in school and in the real world namely, verbal, reading, analytical, and mathematical skills.

What Coleman essentially found was that differences in educational input, (quality and quantity of school facilities, curriculum, teaching methods, guidance services, the education of the teachers and, presumably, the teaching theories which they used) were not significantly related to differences in educational output, i.e. educational achievement. "Our schools," he stated, "have great uniformity in so far as their effect on the learning of pupils is concerned... Variations in school quality are not highly related to variations in achievement of pupils."¹² The conclusion is inescapable ; we are simply too ignorant of how pupils learn nor do we possess a sufficiently powerful theory of learning to know how to harness the technological power which the education industry affects. As matters now stand, some critics believe we can expect much greater return if we invest our energies in basic research rather than in the superstructure of a foundationless technology.

Another line of criticism assumes that the electronic revolution is here to stay and focuses instead upon the future rôle of teachers in technically-equipped classes. Such critics recognize that the education industry is pedagogically neutral and that its concerns are for provid-

¹¹ Patrick Supes of Stanford University is one of the best known experimenters in computer-assisted instruction.

¹² Quoted in an unpublished memorandum of the Carnegie Study of the Education of Educators, April 1967.

ing a service at a maximum profit. They fear, however, that unless new rôles for the teacher have been carefully envisaged, this lack of forethought may encourage production patterns based on the assumption that the teacher is a passive technician rather than an important variable in the classroom.

What is to be the rôle of the teacher, for example, in selecting among competing packages which the new corporations produce? Will prices be so exorbitant as to render it unfeasible for a school system to utilize the products of more than a single firm? Will packaged materials necessitate such close and continuing relationships between industry representatives and individual teachers (for technical training in their use) that school systems become captive satellites of particular firms? Will programmes be so tightly sequenced or so unique in their language that teachers are forced to follow a single path for an entire course?

Those who raise such questions seek to encourage planning and study on how to integrate the new technology among the total variables of the educational equation. No single factor, it is argued, not even instructional materials, can be meaningfully divorced from other considerations. Education is, after all, an interaction process in which many variables are involved — the pupils, the teacher, educational goals, as well as the learning materials all interact with one another. Provisions for flexibility must somehow be maintained so that instructional materials may be varied according to other important demands of the particular situation.

Questions about teacher choice can be extended to the production of materials. The merger of electronics and publishing promises considerable savings in the cost of reproduction, and there is no sound economic reason (other than industry profit) why arrangements should not be made for teachers to produce individually relevant materials for their own classes. Similarly, maintaining freedom of choice requires vigorous inquiry into what aspects of the instructional tasks teachers, rather than machines, can handle most effectively. Unless educators are vigilant, it is maintained, industry could easily be tempted to preempt the entire arena.

The drift of events suggests that the education industry may well repeat some of the major conceptual errors of research on teaching. For more than fifty years educators struggled valiently, if unproductively, to identify ideal methods and ideal personality traits, or, more venturously, combinations of traits which would correlate significantly with some criterion or measure of teaching effectiveness. We failed to appreciate that highly complex interactions were involved in teaching and that no single variable (even, presumably, "xeroxed" materials) could, in itself, predict effectiveness in pupil learning. Finally, and reluctantly, we acknowledged the aridity of the single-factor approach and concluded that meaningful research on teaching required simultaneous consideration of many variables and of the inter-

actions among them. It is to be hoped the new technology can profit from the history of such research and begin to recognize the complexities of the teaching-learning situation.

To date, however, public discussion gives no hint of any such sophistication. Providing for individual differences, for example — a problem which those enamoured of the new technology feel most confident of solving — would seem at least to require a developed awareness of the particular child and sensitive choices by a teacher. It is certainly no mere matter of assigning filmstrip No. 42 to Johnny and computer lesson No. 86 to Jane. "Above all," as Philip Jackson has observed, "it calls for the creation of an educational climate in which psychological complexity of both the student and the teacher is recognized and respected."¹³

In sum, then, there are few neo-Luddites longing to smash the machines or to punch random holes in IBM cards, but there are many sceptics. Some simply do not trust the motives of the private corporation. Others are convinced that the theoretical sophistication concerning learning which guides the electronic wizardry is wholly insufficient to the task. Still others hold that the philosophical conception of teaching which directs the movement differs too little from prevailing ideologies to make any significant development possible. "As most families acquire two cars and colour television," Donald Oliver has remarked, "the school can probably afford to become a repository for complex communication machinery. This may rock the boat slightly, but I doubt very much that it will change its direction."¹⁴

What is most troublesome for those who believe that the "xeroxed" world of tomorrow will be of real pedagogical significance rather than a mere revolution in paper, is our failure to grasp and to exploit its positive implications. In promising to relieve the human instructor of aversive drill, of the barrenness of the single text, of the limitations of mere chalk and pointer and, potentially, of the pressures of the present teaching schedule, it opens up exciting new possibilities for restructuring the teaching rôle. Why should we not be planning to take advantage of its drudgery-reducing capabilities? Certainly the new technology, if wisely controlled, can be made to liberate teachers rather than to doom them to permanent thralldom as technicians. To those who believe in it, the new technology promises an opportunity to free the teacher to be the constant learner we have always claimed he was, or should be.

¹³ Jackson, Philip, "The Teacher and Individual Differences," in: *Individualizing Instruction*, Chicago, National Society for the Study of Education, University of Chicago Press, LXI Yearbook, Part 1, 1962.

¹⁴ Donald Oliver, as quoted in: Goodman, Paul, "Discussion: The Education Industries," *Harvard Educational Review*, Vol. 37, No. 1, (Winter 1967).

D. The teacher : a technician or a professional ?

Cutting across all other developments in teacher education is the yet unresolved dilemma as to whether the teacher is properly conceived as a technician or as an autonomous professional. If effectiveness in teaching is based upon essentially static knowledge, the various pedagogical skills required are best learned by apprenticeship under a master teacher. As long as the aim of professional (to be more accurate, vocational) studies in teacher education is simply to ready a neophyte for the immediate problems of the classroom, direct involvement in practice promises to be more instructive than didactic discussion of "desirable" procedures. A particular preparing institution, if it wished to cater even further to the vocational motivations of its students, might also provide an orientation to the job through a historical or sociological look at the school as a social institution, a "practical" review of human development and of learning principles, and a repertoire of techniques and procedures proved useful by experience.

If, on the other hand, preservice teacher education is intended to provide a foundation for career-long development as an inquiring scholar-teacher, initial training must emphasize ways of knowing. There must be less concern for job information already discovered and far more interest in the strategies for acquiring new knowledge. Philosophy of education would include epistemology and an introduction to the philosophy of science. Studies in psychology might furnish a working knowledge of research methodology and of experimental design, observational categories for observing and recording the behaviour of children, and an introduction to the complex of measurement and evaluation. Advanced studies would provide supervised research experience. Courses in educational sociology would develop analytical tools for understanding student subcultures and the characteristics of pupils in a particular school. Courses in methods of teaching would eschew talk about techniques and procedures — laboratory experience and apprenticeships would be relied upon to develop these skills — and would focus upon the critical analysis of teaching behaviour and a beginning approach to the logic of pedagogical strategies. In short, teacher education would seek to prepare teachers not as complete and polished practitioners but as beginning professionals who possess the trained capacity and the attitudes requisite to lifelong learning.

There are several current developments which derive from the first conception — the idea of the teacher as a reasonably intelligent and well-trained technician. As was indicated earlier, the dominant drift of educational technology is to provide such elegant and tamper-proof materials and pupil-controlled machinery that not even the most ill-prepared teacher could interfere with learning. While there have been those who decry this drift, there is yet no assurance that machine-tending won't become the major activity of teachers. Simi-

larly, the new national curriculum makers appear to think of teachers as mere technicians. Their hope too, is to devise materials which can make their desired impact upon children irrespective of the ignorance or sophistication of a particular instructor.

James Conant's widely read **The Education of American Teachers** has similarly conceived of teachers as technicians, who, while they must be reasonably well prepared in the substantive materials they teach, can easily learn the necessary pedagogical skills through apprenticeship. Essentially, it will be recalled, Conant recommended that the power of the establishment be broken by eliminating prescriptive licensing requirements and restoring substantial autonomy to colleges and universities in teacher preparation. Certification would primarily require, in addition to a baccalaureate and overall institutional support for a candidate, evidence of successful performance as a "student teacher under the direction of college and school personnel in whom the State (Education) Department has confidence and in a practice-teaching situation in which the State (Education) Department approves."¹⁵ Behind such a recommendation, if one accepts the explicit logic of Conant's argument, is the faith that were it not for the restrictive power of the establishment, individual colleges and universities would devise exciting experimental programmes for the preparation of teachers. Institutions need only to be freed from the repressive control of the National Education Association and its counterparts at the state level in order to think and act creatively about the substantive problems of teacher preparation.

Behind such a recommendation, if one follows the implicit logic of Conant's argument, is the assumption that the serious, systematic study of educational processes is an impractical dream. Conant goes to great lengths to avoid offending educationists, but it is obvious that he does not recognize the possibility of their learning to control their craft. He would tolerate the academic study of teaching — if a particular college or university wished to be indulgent towards its professors of education — but essentially, he bases his hopes for reasonable teacher preparation on the apprenticeship system.

What of the schools themselves? Do they support a conception of the teacher as an autonomous professional or as a technician? The literature of teacher education does not afford a satisfactory answer for it is primarily confined to preservice preparation and is rarely concerned with the influence of the school itself or with the work patterns and attitudes it habitually imposes. Typical school procedures, however, are in large part based upon the assumption that teachers cannot function as free scholars but must be carefully standardized and controlled. Rather than encouraging individual professional de-

¹⁵ Conant, James, "The Education of American Teachers," New York, McGraw-Hill Book Co. 1963, p. 40.

cisions about what should be taught and how it should be taught, and sophisticated diagnoses of learning difficulties, as the ideology of teacher education would have it, conditions in the schools normally dictate following detailed rules and filling prefabricated forms. The school as an institution is primarily concerned with the efficiency, as opposed to the effectiveness, of its operation. It must rely on a given existing supply of teachers regardless of the transiency or the impermanency of many persons on the staff and irrespective of the gross differences in ability and motivation among instructors. As schools are operated more and more on a mass basis, everything is done to standardize procedures and, hopefully, ensure that the children learn something, whatever the intellectual power of the particular teacher.

As was previously suggested, except for persons of unusual energy and dedication, the rigors of the school day preclude more than a perfunctory preparation of individual lessons and more than a casual analysis of particular learning difficulties. Textbooks and courses of study are uniform, and the accompanying manuals provide instructions to teachers in the most minute detail. Even, or perhaps especially, new national curricula are deliberately constructed to be as nearly "teacher-proof" as possible. Some sociologists believe teachers have become mere functionaries — replaceable cogs — in school bureaucracies. Obviously, to the degree that a school assumes that its faculty consists of bureaucratic functionaries capable of carrying out only routine tasks, persons of inherently or of trained independent judgement are not encouraged to conceive of their own teaching creatively or imaginatively. The sheer magnitude of the educational enterprise in modern society thus helps to undermine the teacher's will to behave as an autonomous professional.

That schools generally are and have been organized as hierarchical and bureaucratic institutions is readily documented. Raymond Callahan's **Education and the Cult of Efficiency** provides impressive historical evidence that social forces since the turn of the century have shaped the schools in the image of business corporations. Using the perspectives of cultural anthropology and analytic philosophy, and contributing data from a wide range of sources, Solon Kimball and James McClellan, Jr., in **Education and the New America** present a persuasive contrast between the schools of our agrarian past and the schools of our contemporary corporate society. They conclude that there is "an organizational correspondence between the schools in metropolis and superstructures" of industry and government and that both the school and other corporate systems are equally characterized by "bureaucratization, internal specialization, centralization of authority in a managerial elite, and expansion of activities."¹⁶ Sloan

¹⁶ Kimball, Solon ; McClellan, James, "Education and the New America," New York, Random House. 1962, p. 295.

Wayland's analysis of organizational structures in American education and his examination of the teachers's rôle in decision-making lead him to conclude that there is a wide discrepancy between the degree of freedom the teacher-in-training is assured he will enjoy and the actual initiative and autonomy the system allows.¹⁷ A number of empirical studies tend to corroborate the validity of his contention. As schools are predominantly organized then, they tend to "teach" the teacher that he is a technician rather than a professional. On the other hand, to assume that schools will always teach the same lesson may be overly pessimistic. Greatly increased funds, primarily from federal sources, the general determination to improve education (particularly in the central cities), and new conceptions of what the school should be may eventually transform its educative impact upon teachers.

Many recent developments in teacher education, certainly, are grounded in a professional definition of the field. Conant recommended a reliance upon an apprenticeship system just at the time that many universities were abandoning a primarily technical approach to teacher education. He seemed to ignore the fact, for example, that during the past several years schools and departments of education have been engaged in revolutionary restaffing. First-rate representatives of the disciplines underlying studies in education are being attracted to professional faculties.

Experts in pedagogical research have been developed or are now in training in a wide variety of educational specialities. Collegiate staffs are being assembled which can prepare teachers capable of dissecting the classroom, of discovering more about how the child learns or fails to learn, and of contributing to our ability to make dramatic differences in the degree youngsters may be educated. Now, more than ever before, schools of education have the capacity to apply disciplined thinking and to conduct tightly designed investigations into human learning, particularly human learning in the classroom.

It is certainly true that viable theories of instruction have not yet appeared but there is no lack of optimism about our capacity to devise adequate conceptual tools. Educators have not yet developed a sufficient theoretical base for an effective technology but there is greater investment in basic research than ever before. It is also wholly possible that the new technology may be used to support a professional rather than a technical definition of the teaching rôle.

¹⁷ See : Wayland, Sloan. "The Teacher as Decision Maker," in A. Harry Passow, ed., *Curriculum Crossroads*, New York, Bureau of Publications, Teachers College, Columbia University, 1962, pp. 41-52 ; and "Structural Features of American Education as Basic Factors in Innovation," in Matthew B. Miles, ed., *Innovation in Education*, New York, The Horace Mann-Lincoln Institute of School Experimentation, Teachers College, Columbia University, 1964, pp. 587-613.

For the past several years too, teaching has been attracting a larger number of exceptionally able young men and women who are challenged by both the social importance and the complexity of contemporary educational issues. The flow of able persons into teaching can hardly be maintained, let alone increased, if their preparation were to consist of mastering merely imitative skills rather than developing the intellectual tools for pedagogical analysis.

And, most important, the very moment in our history when society seems finally to be taking education seriously hardly seems the time to be satisfied with ancient arrangements for tending school. The need for a more effective, more intellectually demanding, and more abstract education is obvious to all. Many educators feel that now is the opportunity to attempt the preparation of teachers capable not only of manning classrooms but also of discovering more about the yet unrevealed mysteries of their craft.

Whether the schools will be sufficiently changed so as to be in harmony with a professional image of teaching remains to be seen. Many of the factors discussed at the outset of this paper — the new power of the behavioural sciences and of educational research, new patterns of staff utilization, new forms of school-university partnership, and even educational technology, potentially — may well coalesce to create a new kind of school and a new world for teachers. Teacher education in midsummer 1967 in the United States is fluid, full of contradictions and, most important, full of promise.

REFERENCES

- ✓ ALLEN, D.W., "Design for Teacher Education", In : Journal of Teacher Education. (1966).
- ALLEN, D.W., R.E. Gross, "Micro Teaching", Washington : N.E.A. 1965.
- AMIDON, E., "Interaction Analyses applied to Teaching", In : National Association of Secondary-School Principals. Bulletin. (1966).
- ✓ ANDERSON, R.H., "Teaching in a World of Change", New York : Harcourt, Brace & World 1966.
- ✓ ANDREWS, L.O., "Student Teaching", Center for Applied Research in Education 1964.
- AUSUBEL, D.P., "Educational Psychology", A cognitive view. New York : Holt, Rinehart & Winston 1968.
- BAIRD, C.L., "The Role of the Teacher of Six and Seven Year Old Children", In : The British Journal of Educational Psychology. 38 (1968), 3. pp. 323-324.
- BARTON, A.H., "Studying the Effects of College Education", Princeton. E.W. Hazen Foundation 1962.
- BECKER, S.Z., "Television and the Schools - implications for teacher education", In : Education for Teaching. (1965).
- BECKMANN, H.K. (ed.), "Zur Reform des pädagogischen Studiums und der Lehrerausbildung", Modelle, Versuche, Erfahrungen. Weinheim : Beltz 1968.
- ✓ BELLACK, A.A. (ed.), "Theory and Research in Teaching", New York : Teachers College, Columbia University 1963.
- BIDDLE, B.J., "The Integration of Teacher Effectiveness Research", In : Biddle, B.J. ; W.J. Ellena (eds.), "Contemporary Research on Teacher Effectiveness", New York : Holt, Rinehart & Winston 1964.
- BRIGGS, L.J., "The Teacher and Programmed Instruction, In : Audiovisual Instruction. (1964).
- BRUNER, T.S., "Toward a Theory of Instruction", Cambridge, Mass. : Harvard University Press 1966.
- BRUNER, T.S., "The Act of Discovery", In : Harvard Educational Review. 31 (1961), 1. pp. 21-32.
- BUTCHER, H.J., "The Attitudes of Student Teachers to Education", In : British Journal of Social and Clinical Psychology. (1965).
- CAMPBELL, D.T. ; J.C. Stanley, "Experimental and Quasi-experimental Designs for Research in Teaching", In : Gage, N.L. (ed.), "Handbook of Research on Teaching", Chicago : Rand McNally 1963.
- CANE, B.S., "In-service Training : a Study of Teachers' Views and Preferences", Slough : National Foundation for Educational Research in England and Wales 1969.
- CARTWRIGHT, W.H., "Fifth Year Programmes in Teacher Education", In : Journal of Higher Education. (1961).
- CASPARI, I.E. ; J. Eggleston, "A New Approach to Supervision of Teaching Practice", In : Education for Teaching. (1965).

- CHABE, A.M., "An Experiment with CCTV in Teacher Education", In : Peabody Journal of Education. (1962).
- CHARLTON, K. et al., "Students' Attitudes to Courses in Education", In : British Journal of Educational Studies. 8 (1959/1960), 2. pp. 148-164.
- CLARK, R.P.; J.D. Nisbet, "The First Years of Teaching", Aberdeen : Aberdeen University Department of Education 1963.
- COLLINS, M., "Students into Teachers - Experiences of Probationers in Schools", London : Routledge & Kegan Paul 1969.
- COLTHAM, J.B., "An Experiment in School Practice", In : Education for Teaching. (1966).
- CONANT, J., "The Education of American Teachers", New York : McGraw Hill 1963.
- COPE, E., "Some Developments in Teacher Education in England and Wales", In : International Review of Education. 15 (1969) 1. pp. 57-65.
- CUBAN, L., "The Cardozo Peace Corps Project", In : Sociology of Education. (1964).
- CULIK F., "The Attitudes of Graduates from a Pedagogical Faculty", In : Sociologica Pedagogica. (1969).
- DAVIS, O.L.; N.D. Bowers, "Group Sensitivity Training in a Teacher Education Programme", In : Peabody Journal of Education. (1961).
- DICKSON, G.E. et al., "The Characteristics of Teacher Education Students", Toledo, Ohio 1965.
- EBEL, R.L. (ed.), "Encyclopaedia of Educational Research", New York : MacMillan 1969.
- EVANS, K.M., "Teacher Training Courses and Students' Personal Qualities", In : Educational Research. 10 (1967/1968), 1. pp. 72-77.
- FISER, J., "The Personality of a Teacher", In : Pedagogika SPN. (1967).
- FLANDERS, N.A., "Teacher Influence, Pupil Attitudes and Achievement", Ann Arbor, Mich. : University of Michigan 1962.
- FLANDERS, N.A., "Teacher Effectiveness", In : Ebel, R.L. (ed.) : op. cit. 1969.
- FLOUD, J.E., "Teaching in the Affluent Society", In : The Yearbook of Education. London : Evans 1963. pp. 382-389.
- FLOUD, J.E.; W. Scott, "Recruitment to Teaching in England and Wales", In : Floud et. al. : Education Economy and Society. New York : The Free Press of Glencoe 1961. pp. 527-544.
- FORST, F.; J. Mathews, "Preparing Teachers by Exposure to Group Processes", In : Journal of Teacher Education. (1964).
- GAGE, N.L. (ed.), "Handbook of Research on Teaching", Chicago : Rand McNally 1963.
- GARDNER, D.E.M.; J.E. Cass, "The Role of the Teacher in the Infant and Nursery School", London : Pergamon Press 1965.
- GERLING, G.; H. Jung, "Lehrerbedarf und Lehrernachwuchs an Gymnasien in Niedersachsen 1965-1980", Hannover : Philologenverband Niedersachsen 1966.
- GERTH, K., "Müssen Prüfungsarbeiten so sein"? IN : Die Deutsche Schule. 58 (1966), 10. pp. 618-623.
- GETZELS, J.W.; P.W. Jackson, "The Teacher's Personality and Characteristics", In : Gage, N.L. (ed.) : op. cit. 1963.
- GOLDBERG, M.; A.H. Passow, "The Effects of Ability Grouping", New York : Teachers College, Columbia University 1966.
- HAAN, A., "The Teaching Complex : Focus of an In-service Education", In : Educational Leadership. (1964).

- HALMOS, P., "The Faith of the Counsellors", London : Constable 1965.
- HANKO, G., "Intergroup Projects in Teacher Training", In : Education for Teaching. (1964).
- HANNAM, C.L. et al., "Supplementary Teacher Practice : the Student and the Small Group", In : Education for Teaching. (1967).
- HAPKE, E., "Psychologie in der Lehrerbildung", In : Neue Sammlung. 3 (1963).
- HARAP, H., "Fifth Year Programmes of Classroom Teacher Education", In : HEW Bulletin. (1962).
- HAZARD, W., "The Tutorial and Clinical Approach to Teacher Education. Evanston", Ill. : Northwestern University 1966.
- HILLIG, I., "Lehrerbestand und Lehrernachwuchs der Gymnasien der Bundesrepublik", Köln-Lindenthal : Universität zu Köln 1964. (Thesis).
- ✓ HIRST, P., "Philosophy and Educational Theory", In : British Journal of Educational Studies. 12 (1963), 1.
- HOLMES, R., "The University Seminar and the Primal Horde : a Study of Formal Behaviour", In : British Journal of Sociology. (1967).
- HORN, H., "Untersuchung über den Volksschullehrernachwuchs in Hessen", Marburg/Lahn : Philipps-Universität 1963. (Thesis).
- HORN, H., "Volksschullehrernachwuchs - Untersuchungen zur Quantität und Qualität", Weinheim : Beltz 1968.
- HUSEN, T. (ed.), "International Study of Achievement in Mathematics", New York : Wiley 1967.
- JIRANEK, F., "The Grammatical and Mathematical Knowledge of Graduates of Higher Secondary Schools", Prague : Charles University 1966.
- JIRANEK, F., "Motivation of Teachers for Self Education", Prague : Charles University 1968.
- KARBAL, H.T., "The Effectiveness of a Workshop as a Means of In-service Education of Teachers", Detroit, Mich. : Wayne State University 1963.
- ✓ KARTESZ, F., "Modernising the Teacher Education Syllabus", In : Felsőoktatási Szemle. (1961).
- KELLER, R.J., "The Teacher's College - Research in Closed Circuit TV", In : North Central Association Quarterly. (1961).
- KOB, J. : "The Teacher in an Industrial Society", In : The Yearbook of Education. London : Evans 1963. pp. 390-398.
- KONDELKA, F., "The Social Profile of the Applicants for Acceptance to the Pedagogical Faculty", Olomouc : University of Palackého 1966.
- KOTASOVA, Z., "A Contribution to the Diagnosis of the Abilities for the Teaching Profession", Olomouc : University of Palackého 1967.
- LANGEVELD, M.T., "The Psychology of Teachers and the Teaching Profession", In : The Yearbook of Education. London : Evans 1963. pp. 399-418.
- LIEBERMAN, M., "Education as a Profession", Englewood Cliffs, N.J. : Prentice-Hall 1956.
- LJUNG, B.-O. ; J. Naeslund, "Interview Method in the Selection of Applicants for Teacher Training. A study of the reliability of judgments of video-taped interviews", Stockholm : Department of Educational and Psychological Research, School of Education 1970. (Research Bulletin No. 14).
- LJUNG, B.-O. ; J. Naeslund, "Judging Student Teachers. Agreement in judgments of student teaching and the validity of video-taped applicant interviews", Stockholm :

- Department of Educational and Psychological Research, School of Education 1970. (Research Bulletin No. 15).
- MADDOX, H., "A Descriptive Study of Teaching Practice", In : Educational Review. (1968).
- McCALLISTER, J.C., "A Study of Courses in Education Offered by State Colleges and Universities in Louisiana", Louisiana : Louisiana State University 1964.
- McFARLANE SMITH, I., "The Morrisby Differential Test Battery in the Assessment of Students in a College of Education", London : Society for Research into Higher Education 1967.
- McINTYRE, D. ; A. Morrison, "The Educational Opinions of Teachers in Training", In : British Journal of Social and Clinical Psychology. (1967).
- McKEACHIE, W.J., "Research in Teaching : the gap between theory and practice", In : Lee (ed.), "Improving College Teaching", Washington : American Council on Education 1967.
- McLEISH, J., "Teachers' Attitudes : a Study of National and Other Differences", Cambridge : Institute of Education 1969.
- McNEIL, J., "An Experimental Effort to Improve Instruction through Visual Feedback", In : Journal of Educational Research. (1962).
- MENAKER, S.L. ; F.E. Fuller, "A Study of Elementary Teacher Training". Center for Teacher Education, University of Texas 1967.
- MERESS, S., "The Interest of Youth in the Teaching Profession", Prague : Charles University 1967.
- MILES, M.B., "Innovation in Education", New York : Teachers College, Columbia University 1964.
- MORSE, J.E. ; E.W. Wilder, "Identifying the Effective Instructor - a Review of the Quantitative Studies (1900-1952)", United States Air Force 1954.
- MOSER, C.A. ; P.R.G. Layard, "Planning the Scale of Higher Education in Britain : some Statistical Problems", In : Journal of the Royal Statistical Society. (1964).
- ✓ MUSGRAVE, P.W., "Syllabuses and Teaching Methods for Sociology in Colleges of Education", In : Education for Teaching. (1965).
- MUSGROVE, F., "Proposals for Inter-professional Education", In : Education for Teaching. (1962).
- NAGY, S., "The Improvement of Pedagogic Methods in the University", In : Felsoktatási - Szemle. (1967).
- NATIONAL Education Association, "Changes in Teacher Education : an Appraisal", Washington : N.E.A. 1963.
- NATIONAL Education Association, "The Education of Teachers : Considerations in Planning Institutional Programmes", Washington : N.E.A. 1965.
- ✓ NEZVALOVA, M., "The Attitudes of Students in the Pedagogical Faculty", Olomouc : University of Palackého 1966.
- NEWE, H., "Die Schulrelevanz und ein neuer Stil in der wissenschaftlichen Prüfung der Gymnasiallehrer", In : Zeitschrift für Pädagogik. 11 (1965), 1. pp. 37-48.
- ✓ NIBLETT, W.R., "Relationship between Academic and Professional Studies in Colleges of Education in England and Wales", London : University of London, Institute of Education 1969.
- ✓ NUNNEY, D.N., "Trends in the Content of Educational Psychology", In : Journal of Teacher Education. (1964).
- ✓ OGORODNIKOV, I., "Contemporary Tasks of Teacher Preparation", In : Narodnoe Obrazovanie. (1967).

- OLIVER, R.A.C. ; H.J. Butcher, "Teachers' Attitudes to Education", In : The British Journal of Educational Psychology. 38 (1968), 1. pp. 38-44.
- OWENS, G., "Integrated Studies in a College of Education", In : The New Era. 48 (1967), 8. pp. 178-180.
- PESEK, Z. et al., "The Concepts and Content of Teacher Education", Hradec Králové 1967.
- PLAKS, C.V. ; T.G. Wynant, "Network Analysis and the Possibility of its Use in Education", In : Educational Review. (1969).
- POOLE, J., "A Scientific Experiment in Classroom Observation", Manchester : University of Manchester 1964.
- POPPLETON, P.K., "The Assessment of Teaching Practice", In : Education for Teaching. (1968).
- PREISSLER, G., "Versuche zur Volksschul- und Gymnasiallehrerbildung", Braunschweig : Westermann 1966.
- PRICE, G., "The Crisis in School Practice", In : Education for Teaching. (1964).
- RENCE, H.S., "Observing Teaching via Closed-circuit Television", In : Journal of Teaching Education. (1961).
- ROSE, B., "Some Psychological Considerations in Language Laboratory Work", In : Education for Teaching. (1966).
- SARASON, S.B., "The Preparation of Teachers : an Unstudied Problem in Education", New York : Wiley 1962.
- SANFORD, N. (ed.), "The American College", New York : Wiley 1963.
- SATHMARY, L., "Problems in Teacher Education", In : Magyar Pedagogia. (1963).
- SCHOBEN, E.J., "Psychology and the Training of Teachers", In : Teachers College Record. (1964).
- SCOTT, W., "Fertility and Mobility among Teachers", Population Studies 1958.
- SHIPMAN, M.D., "The Assessment of Teaching Practice", In : Education for Teaching. (1966).
- SHIPMAN, M.D., "Education and College Culture", In : British Journal of Sociology. (1967).
- SMITH, G., "A Computer Programme for the Placement of Student Teachers", In : Journal of Teacher Education. (1962).
- SMITH, B.O. ; R.H. Eunis, "Language and Concepts in Education", Chicago : Rand McNally 1961.
- STANLEY, W.O., "The Role of the Social Foundations Subjects in the Professional Training of Teachers", Iowa : State College 1966.
- START, K.B., "Teachers from Different Colleges of Education", Manchester : University of Manchester 1967.
- STATISTISCHES Bundesamt, "Pädagogische Hochschulen und lehrerbildende Anstalten", Stuttgart : Kohlhammer 1964. (Fachserie A. Reihe 10, IV.)
- STEPITOVA, A., "Pedagogical Practice as a Teaching Subject at University", Pedagogika Bratislava 1963.
- STILES, L.J., "Attitudes towards Education Courses", In : Journal of Teacher Education. (1959).
- STILES, L.J., "Teacher Education Programmes", In : Ebel, R.L. (ed.) : op. cit. 1969.
- STONES, E., "The Teaching of Programmed Technique in Teacher Education", In : Education for Teaching. (1966).
- STUKAT, K.G., "Didactic Process and Product Analysis", School Research. National Board of Education 1969.

- SVOBODA, B., "Personality Studies of Physical Education Teachers", Gymnasium, International Council for Health, Physical Education and Recreation 1970.
- TAUSCH, A. ; R. Tausch, "Erziehungspsychologie", Göttingen : Verlag für Psychologie 1968.
- ✓ TAYLOR, W., "Sociology of Education in the Training College", In : Education for Teaching. (1961).
- TAYLOR, W., "The University Teacher of Education", In : Comparative Education. (1965).
- ✓ TAYLOR, W., "Who Teaches Education ?", In : University Quarterly. (1965).
- TAYLOR, W., "Towards a Policy for the Education of Teachers", London : Butterworth 1969.
- TIBBLE, J.W., "The Study of Education", London : Routledge & Kegan Paul 1966.
- TUCEK, A., "The Effectiveness of a University Course for School Administrators and Inspectors", Prague : Charles University 1968.
- TURNHULL, G.H., "The Use of a Programmed Textbook in Psychology", In : Education for Teaching. (1963).
- TYLER, L. ; L.J. Okumu, "Beginning Step : a System for Analysing Courses in Teacher Education", In : Journal of Teacher Education. (1965).
- UNDEUTSCH, U., "Motive der Abiturienten für die Wahl oder Ablehnung des Volksschullehrerberufes", Frankfurt/M. : Max-Traeger-Stiftung 1964.
- VLCEK, G., "Classroom Simulation in Teacher Education", In : Audio-visual Instructor. (1966).
- ✓ WALL, W.D., "Education and Mental Health", Paris : Unesco 1964.
- ✓ WALTON, J. ; J.L. Kneke, "The Discipline of Education", Madison : University of Wisconsin 1963.
- WESTWOOD, L.J., "Re-assessing the Role of the Head", In : Education for Teaching. (1966).
- ✓ WESTWOOD, L.J., "The Role of the Teacher", In : Educational Research, 10 (1967/1968), 1. pp. 21-37.
- WILKE, R.E. et al., "A Study of the Relationship between Observed Classroom Behaviours of Elementary Student Teachers, Predictors of those Behaviours, and Ratings by Supervisors", Minneapolis : College of Education, University of Minnesota 1962.
- WILKINSON, R.D., "Evaluation Based on Observation of Reports of Supervisors of Student Teachers", In : Journal of Educational Research. (1963).
- WILSON, B.R., "The Teacher's Role : a Sociological Analysis", In : British Journal of Sociology. (1962).
- WISEMAN, S., "Assessing the Ability of Experienced Teachers", In : Advancement of Science. (1963).
- WISEMAN, S. ; K.B. Start, "A Follow-up of Teachers Five Years after Completing their Training", In : The British Journal of Educational Psychology. 35 (1965), 3. pp. 342-361.
- WOLFE, D., "America's Resources of Specialised Talent", New York : Harper & Row 1954.
- WOODWARD, J.C., "The Use of Television in Teacher Education", In : Journal of Teacher Education. (1964).
- WORCESTER, D.A., "Some Assumptions, Explicitly and Implicitly Made in the Investigations here summarised", In : Journal of Experimental Psychology. (1961).